TPC-1261H

GX3 LX800 Touch Panel Computer with 12.1" SVGA TFT LCD

User Manual

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This Manual Covers the Following Models

- TPC-1261H-A1
- TPC-1261H-A1E

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Product Warranty (1 year)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for one year from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information.

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Support and Assistance

Step 1. Visit the Advantech web site at **www.advantech.com/support** where you can find the latest information about the product.

Step 2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

Packing List

Before setting up the system, check that the items listed below are included and in good condition. If any item does not accord with the table, please contact your dealer immediately.

- 1 x TPC-1261H-A1
- 8 x Panel mounting clampers
- 8 x Panel mounting screws
- 1 x 3-Pin power connector
- 1 x TPC x86 Series support CD
- 1 x CompactFlash to IDE adapter board

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User's Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:

a. The power cord or plug is damaged.

b. Liquid has penetrated into the equipment.

c. The equipment has been exposed to moisture.

d. The equipment does not work well, or you cannot get it to work according to the user's manual.

e. The equipment has been dropped and damaged.

f. The equipment has obvious signs of breakage.

15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
16. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

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CHAPTER 1

General Information

This chapter gives background information on TPC-1261H..

Sections include:

- Introduction
- Specifications
- I/O Ports Arrangement
- Panel Mounting
- Exploded Diagrams
- Dimensions & Cutout

Chapter 1 General Information

1.1 Introduction

The TPC-1261H touch panel computer is a state-of-the-art HMI (Human Machine Interface). This operator interface with a 12.1" display is an x86-based platform with these key features:

- **Fanless**
  By using a low-power processor, the system does not have to rely on fans, which often are unreliable and causes dust to circulate inside the equipment.

- **Bright Display**
  The TFT LCD display suits industrial demands for clear interfaces.

- **Powerful Communication Capability**
  TPC-1261H provides a powerful I/O interface for easily communicating with other devices. The I/O interface includes serial ports, a parallel port, Ethernet and USB 1.1 support. TPC-1261H also supports the expansion slot PCI/104. This makes it easy to expand with the required PCI/104 modules.

- **Windows CE Support**
  In addition to the OS support of Windows XP, Advantech offers platform support for Windows CE and Windows XP embedded. The optional Windows CE operating system specifically for the TPC-1261H is available for Windows CE application program builders.

1.2 Specifications

1.2.1 System Kernel

- **CPU:** GeodeLink Control Processor LX800 500MHz
- **BIOS:** Award 512KB flash memory
- **South Bridge:** GeodeLink Control Processor CS5535
- **VGA:** GeodeLink Control Processor LX800 500MHz
- **Ethernet:** Realtek RTL8100BL; IEEE 802.3u protocol compatible
- **Watchdog Timer:** W83627 watchdog timer; 1.6 second timeout period
- **IDE:** 1 EIDE channel supports one CompactFlash socket onboard (Master) and one IDE interface harddrive (Slave)

1.2.2 I/O Ports

- 1 parallel port: supports EPP/ ECP modes
- 4 serial ports: RS-232 (COM1, COM2, COM3) and RS-232/422/485 (COM4)
- 1 RJ-45 Ethernet port
- 1 PS/2 port: 6-pin mini-DIN ports for keyboard and mouse
- 2 USB 2.0 Ports: compliant with USB 1.0 and 1.1.
- 1 PCI/104 slot

Note: COM1 and COM2 only support half-duplex (Maximum baud rate: 115.2Kbps)

1.2.3 Safety and Environment

Safety

- FCC Class A
- CE certificated
- The front bezel is compliant with NEMA 4 and IP65

Environment

- **Operating Temperature:** 0 ~ 50° C (32 ~ 122° F)
- **Storage Temperature:** -20 ~ 60° C (-4 ~ 140° F)
- **Humidity:** 40° C @ 10~95% relative humidity (non-condensing)
- **Vibration:** 1 grms (5~500Hz)

1.3 LCD Specifications

- **Display Type:** TFT color LCD
- **Size (diagonal):** 12.1”
- **Maximum Resolution:** 800 x 600 (SVGA)
- **Maximum Colors:** 256,000
- **Pixel Pitch (W x H, mm):** 0.3075 x 0.3075
- **Viewing Angle:** 100°
- **Luminance (cd/m²):** 340
- **Contrast Ratio:** 300
- **Operating Temperature:** 0 ~ 50° C (32 ~ 122° F) (Ambient)
- **Backlight:** 2 CCFL
- **Backlight Life Time:** 50,000 hours

Note *There might be several bright or dark pixels on the LCD. This phenomenon is normal in today’s LCD manufacturing.*

1.4 Touchscreen Specifications

- **Touch Type:** Resistive
- **Base Glass Construction:** Tempered Glass
- **Resolution:** 1024 x 1024
- **Light Transmission:** 75% typical
- **Controller:** USB Interface
- **Lifespan:** 1 million touches at single point

1.5 Power

- **Input Voltage:** 18 - 32V_{DC} (the fuse will become an open circuit if the input level exceeds 33 V_{DC})
- **Typical:** 24V_{DC}@2.5Amp

1.6 I/O Ports Arrangement

The arrangement of the I/O ports is shown in Figure 1.1.

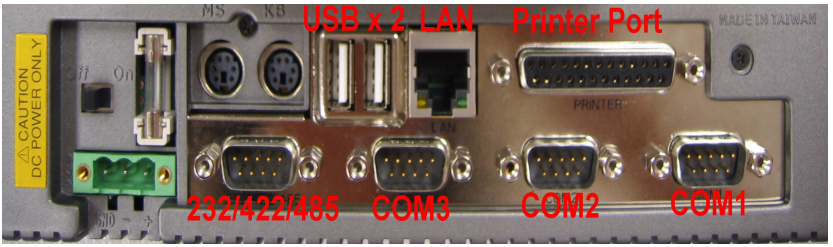


Figure 1.1: I/O Port Arrangement

1.7 Panel Mounting

1. There is an adhesive waterproof gasket on the Mg-AL front bezel. Make sure the waterproof gasket is in position before installing TPC-1261H into the panel opening.
2. Install the TPC-1261H into the panel opening.
3. Find the eight clampers and eight long screws in the accessory pack. Hook the clampers to the holes around the four sides of the bezel. Insert the screws into every clamper and fasten them. These screws will push the mounting panel and fix the unit.
4. The suggested mounting panel thickness is less than 6 mm (0.236”).

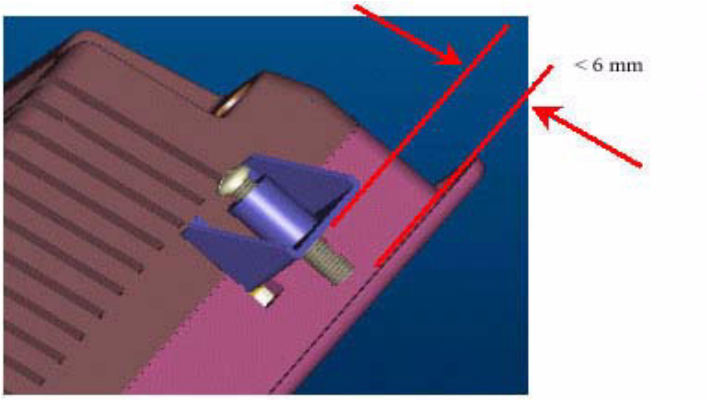


Figure 1.2: Panel Mounting

1.8 Dimensions and Cutout

- Weight: 4.1 kg (without HDD)
- Dimensions: 311 x 237 x 58 mm (W x H x D)
- Cutout: 302 x 228 mm (suggested)

Figure 1.3: Dimensions

CHAPTER 2

System Setup

This chapter provides a brief explanation for operating TPC-1261H.

Chapter 2 System Setup

You can easily get TPC-1261H started by following the below steps.

- Step 1: Unpack the TPC-1261H package. Check the packing list at the beginning of this manual to make sure all items have been included.

Figure 2.1: Unpack the Package

- Step 2: Install a CompactFlash card containing Windows CE, embedded Windows XP or another operating system.

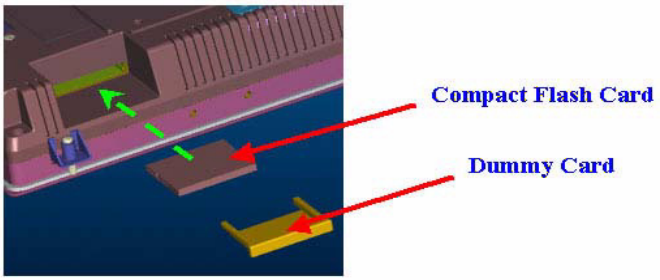


Figure 2.2: Install CompactFlash Memory Card

Warning *It is suggested to turn OFF system power as you plug in or pull out the memory card, even though the CompactFlash memory is hot swappable.*

- Step 3: Connect the power connector to the 24 V_{DC} power lines. The power lines can either be of some power adapter or in-house power source.

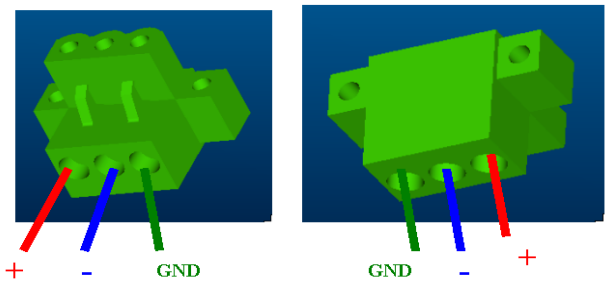


Figure 2.3: Power Connector and Power Lines

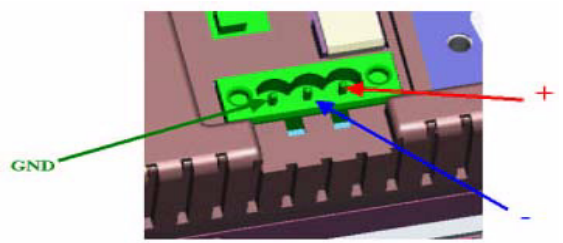


Figure 2.4: Power Receptor & Button Pin Assignment

- Step 4: Plug the power lines into the system power receptor.
- Step 5: Push the power button to power on the system (figure 2.4).
- Step 6: Calibrate the touchscreen (click "PM" in the bottom corner).

Note: *We are using Windows XP as the example. Please refer appendix F for detail.*

Figure 2.5: Touchscreen Icon

Figure 2.6: Touchscreen Calibration

CHAPTER 3

System Engine

Chapter 3 System Engine

Table 3.1: Mainboard Connectors & Jumper Settings		
Label	**Function**	**Description**
CN2	LCD POWER	LCD INVERTER Connector
CN3	CF	CompactFlash socket
CN4	IDE	Internal IDE 44pin(2mm) connector
CN5	ETHERNET	RJ45 LAN PORT
CN6	LPT	Printer Port
CN7	COM1	Serial port:COM2 RS232
CN8	COM2	Serial port:COM1 RS232
CN9	DC IN	DC Power in Connector,HOUSING 5.08 MM 3P
CN10	USB2	Two USB Type-A Female to on panel.
CN11	USB1	Two USB Type-A Female to on panel.
CN12	PS2/MOUSE	Standard Mini-DIN 6-pin
CN13	PS2/KEYBOARD	Standard Mini-DIN 6-pin
CN14	PCI104	PCI104 30*4 CONNECTOR
CN15	COM3	Serial port:COM1 RS232
CN16	COM4	Serial port:COM1 RS232/485/422
JP1	PANEL	PANEL CONNECTOR
JP2	TOUCH	TOUCH CONNECTOR
JP4	5V/3V	PCI104 5V/3V SELECT
J1	DDR	DDR CONNECTOR
J3	1*3 PIN HEADER	CLEAR CMOS
SW1	POWER SWITCH	System Power Switch
BH1	BATTERY	RTC BATTERY
FS1	FUSE	FUSE HOLDER

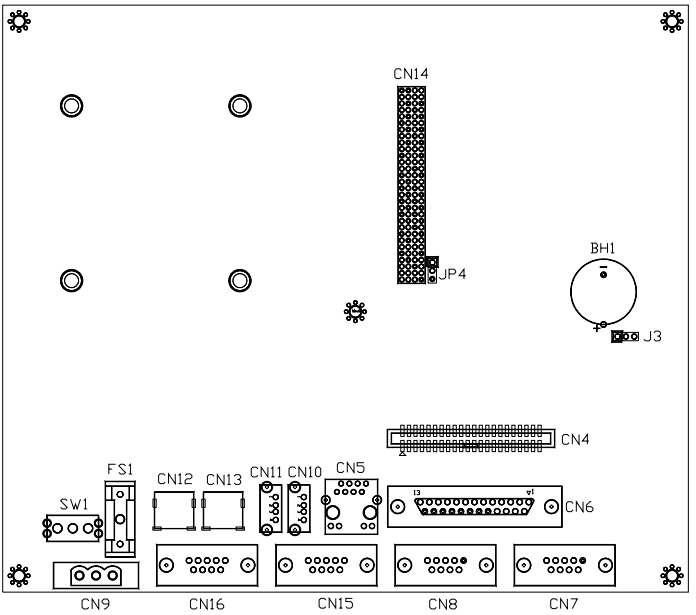


Figure 3.1: Main Board Connectors - 1

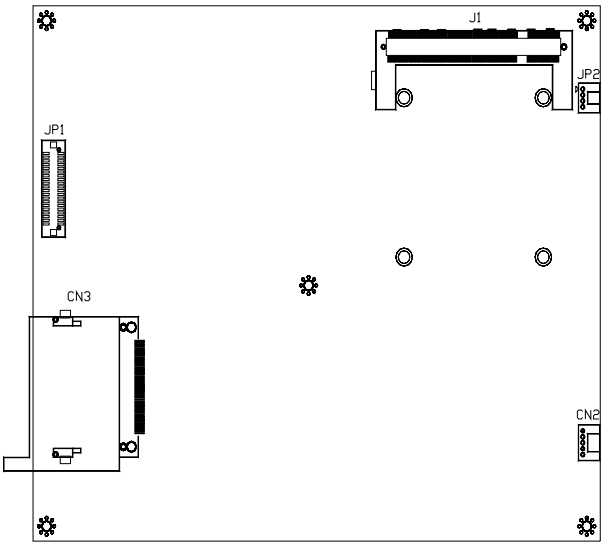


Figure 3.2: Main Board Connectors - 2

CHAPTER 4

Software Configuration

Sections include:

- VGA Driver Installation
- Advantech COM Installation
- Entertainment Encryption/ Decryption Driver Installation

Chapter 4 Software Configuration

A support CD-ROM for TPC-1261H is available and along with the product. There are related utilities and drivers of TPC-1261H for Windows XP. Please insert the support CD-ROM into your CD-ROM driver and install the VGA graphics driver, Advantech com driver, Touchscreen driver and WDM driver sequentially. Touchscreen installation is described in the appendix.

4.1 VGA Driver Installation

Please follow the steps to install VGA driver.

Step 1: Please go to “Device Manager” (control panel -> system -> hardware) and then click “Video Controller”.

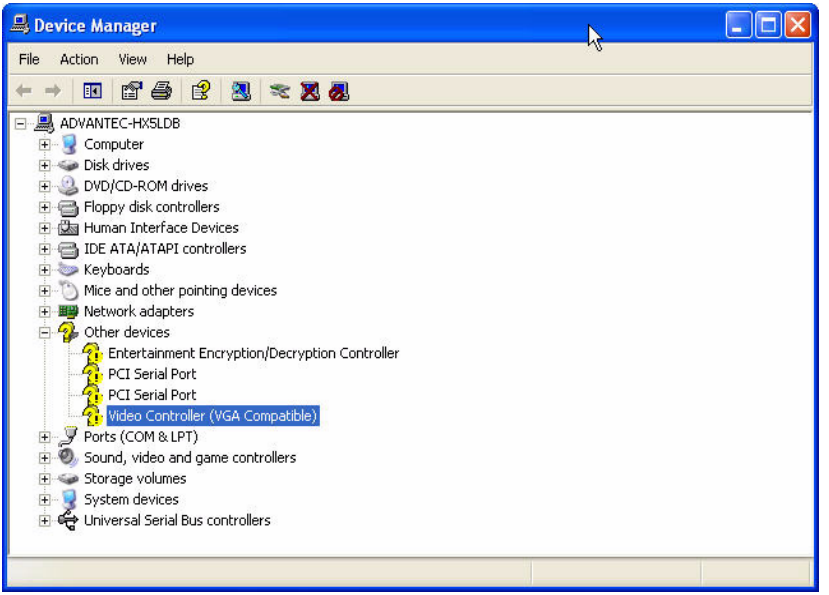


Figure 4.1: Device Manager

Step 2: Please go to “Driver” tab to update the driver.

Figure 4.2: Update Driver

Step 3: Then follow the update wizard processures.

Hardware Update Wizard
Welcome to the Hardware Update Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Figure 4.3: Update Wizard-1

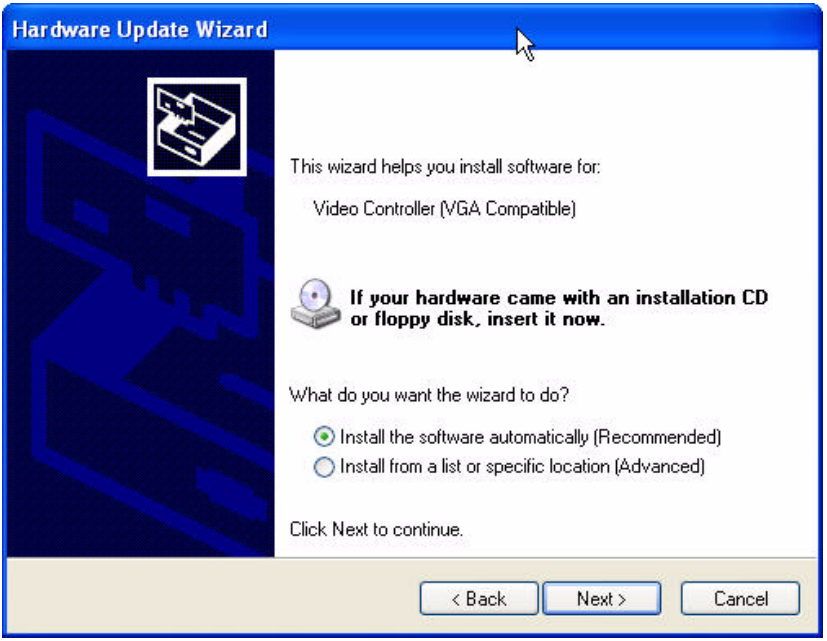

Hardware Update Wizard
This wizard helps you install software for:
Video Controller (VGA Compatible)
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 4.4: Update Wizard-2

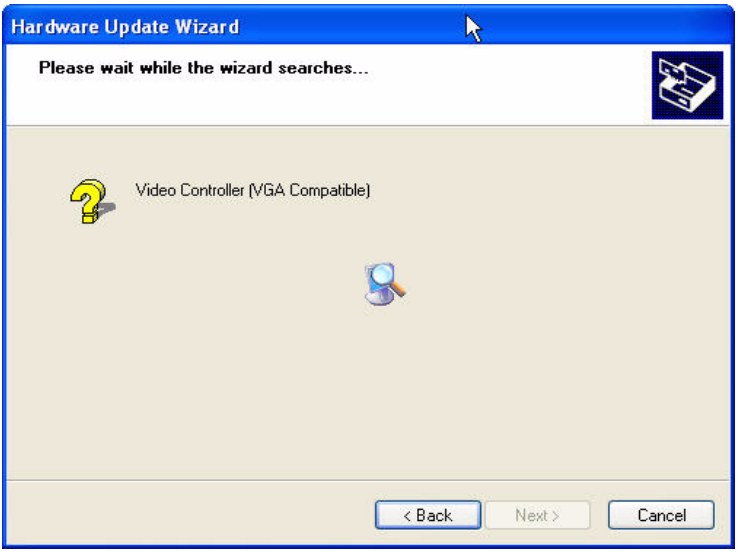


Figure 4.5: Update Wizard-3

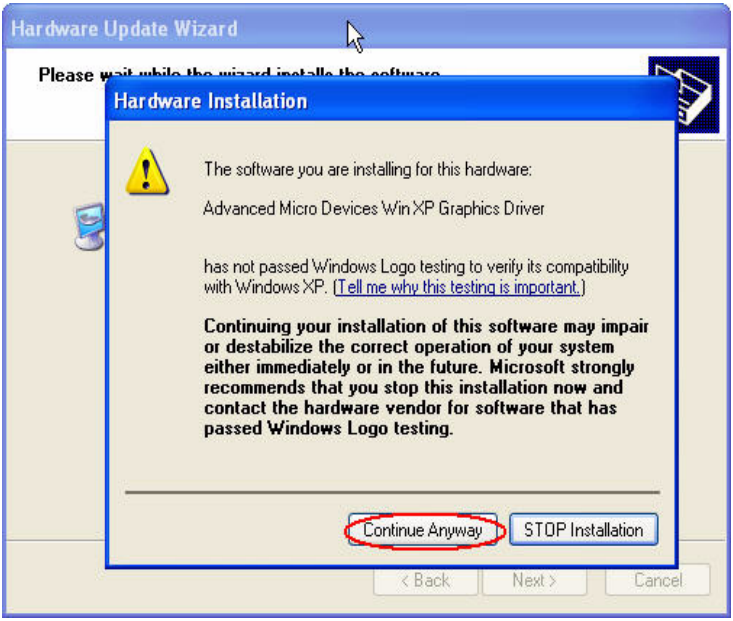

Hardware Update Wizard
Please wait while the wizard installs the software...
Hardware Installation
The software you are installing for this hardware:
Advanced Micro Devices Win XP Graphics Driver
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
< Back
Next >
Cancel

Figure 4.6: Update Wizard-4

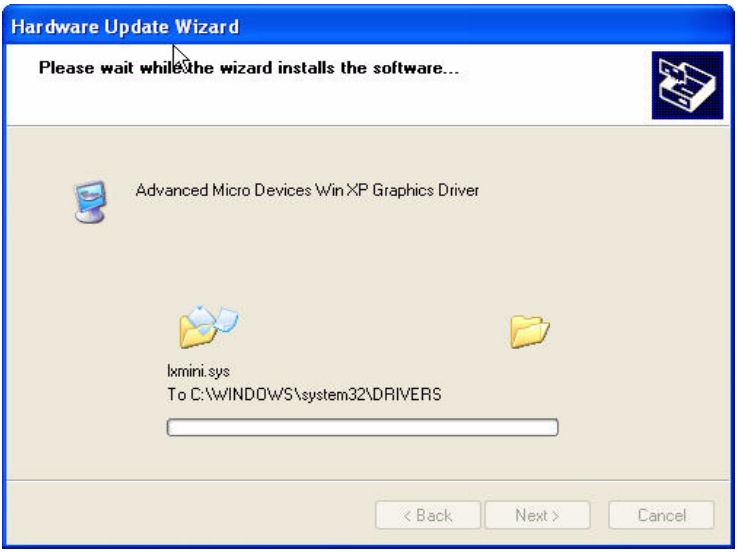


Figure 4.7: Update Wizard-5

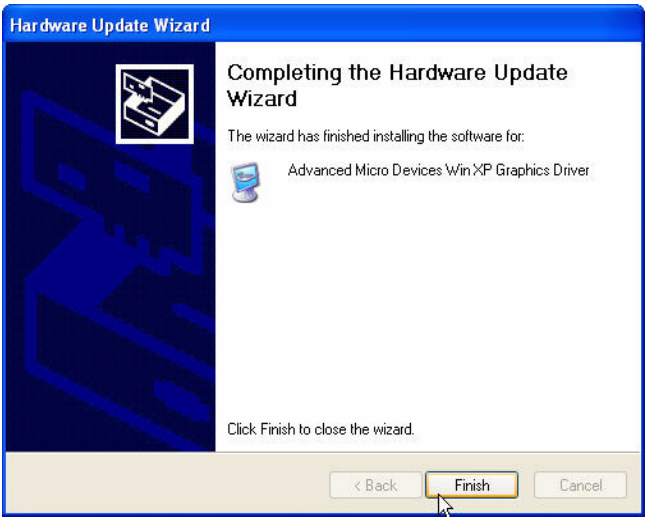

Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
Advanced Micro Devices Win XP Graphics Driver
Click Finish to close the wizard.
< Back
Finish
Cancel

Figure 4.8: Update Wizard-6

Step 4: After you successfully update the driver, you can see the VGA successfully installed from the device manager.

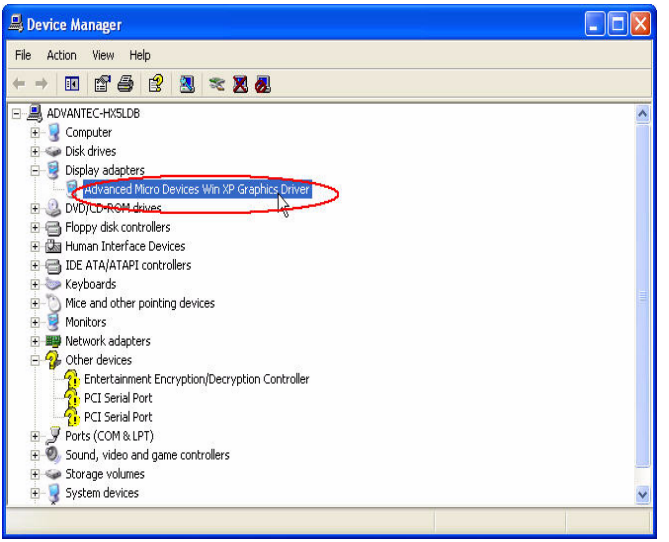


Figure 4.9: Driver Installation Complete

4.2 Advantech COM Driver Install

Two com ports named COM3 and COM4 on TPC-1261H are Advantech Special com port. Please follow the steps below to install the driver.

Step 1: Insert the CD-ROM into your CD-ROM drive. Go to the directory: …\TPC-1261H\Driver\Com Port Driver and then excute PCI_ICOM.exe

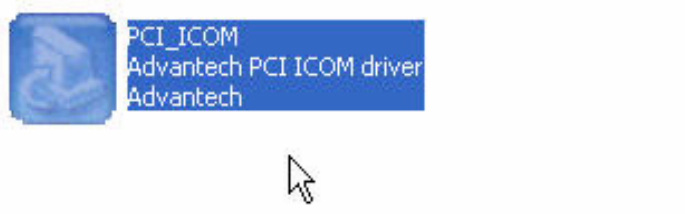


Figure 4.10: PCI_ICOM Setup

Step 2: Following the install shield wizard to finish the setup.

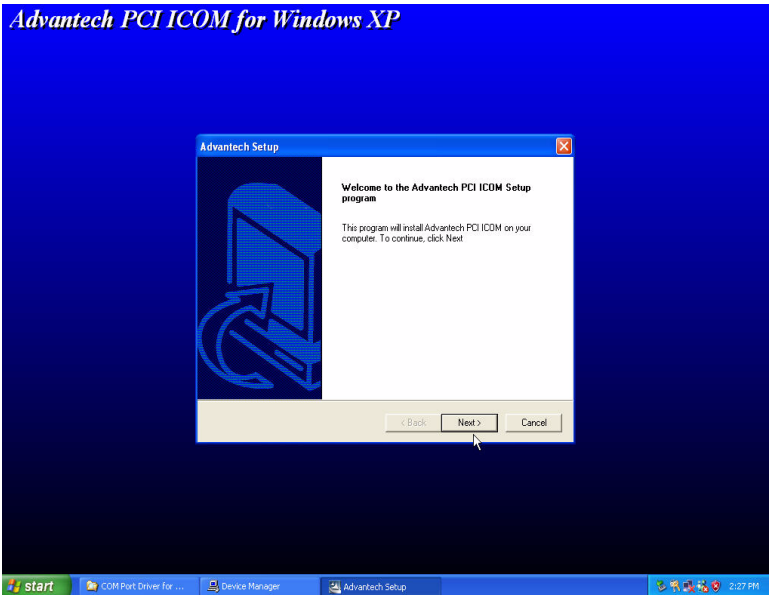

Advantech PCI ICOM for Windows XP
Advantech Setup
Welcome to the Advantech PCI ICOM Setup program
This program will install Advantech PCI ICOM on your computer. To continue, click Next
< Back
Next >
Cancel
start
COM Port Driver for ...
Device Manager
Advantech Setup
2:27 PM

Figure 4.11: PCI ICOM Installation - 1

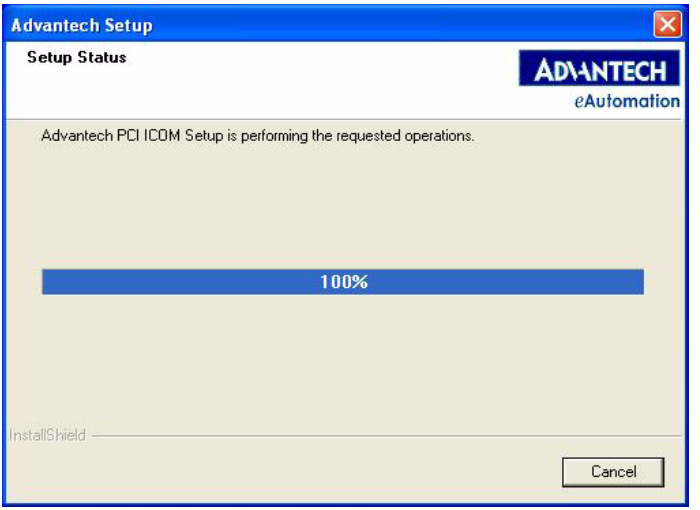


Figure 4.12: PCI ICOM Installation - 2

Step 3: Then, go to “Device Manager” to update the driver. Click “?PCI Serial Port” and then select “Driver” Tab to update driver as shown in Figure 4.9

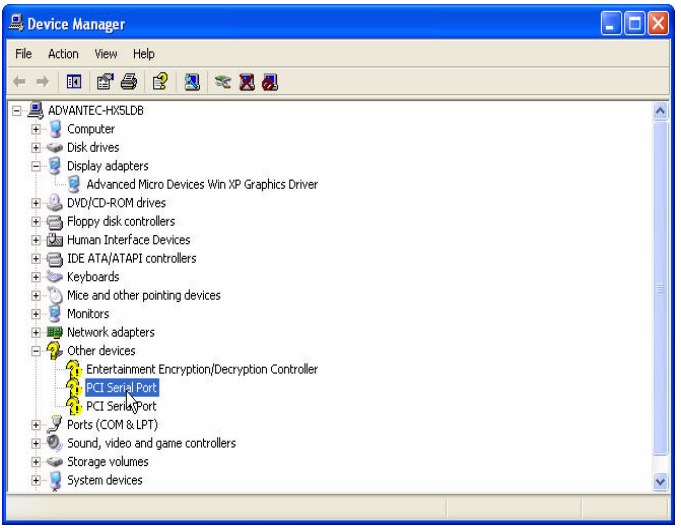


Figure 4.13: Device Manager Screen

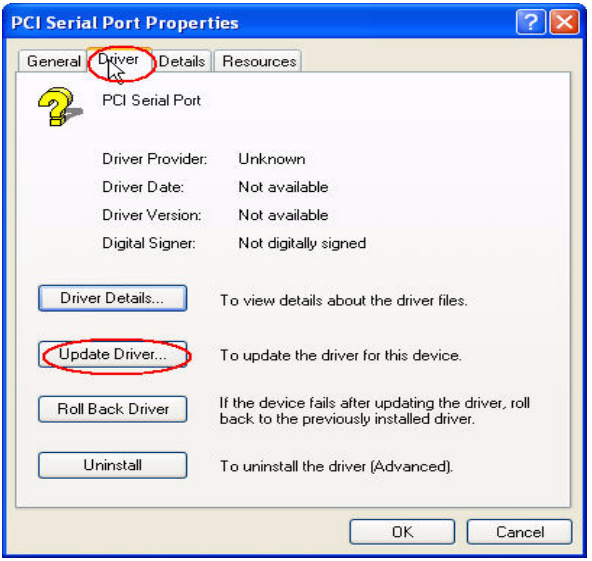


Figure 4.14: Update Driver - 1

Step 4: Follow the hardware update wizard as the figures below.

Hardware Update Wizard
Welcome to the Hardware Update Wizard
This wizard helps you install software for:
PCI Serial Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 4.15: Update Driver - 2

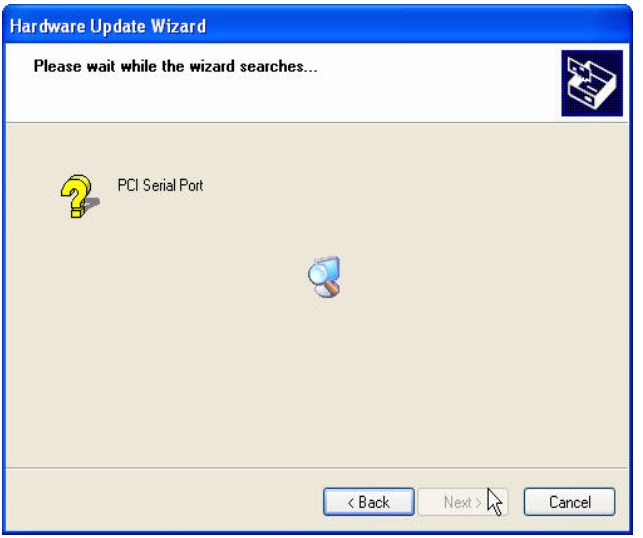


Figure 4.16: Update Driver - 3

Step 5: Complete the PCI-1602 Series Slave Bridge installation.

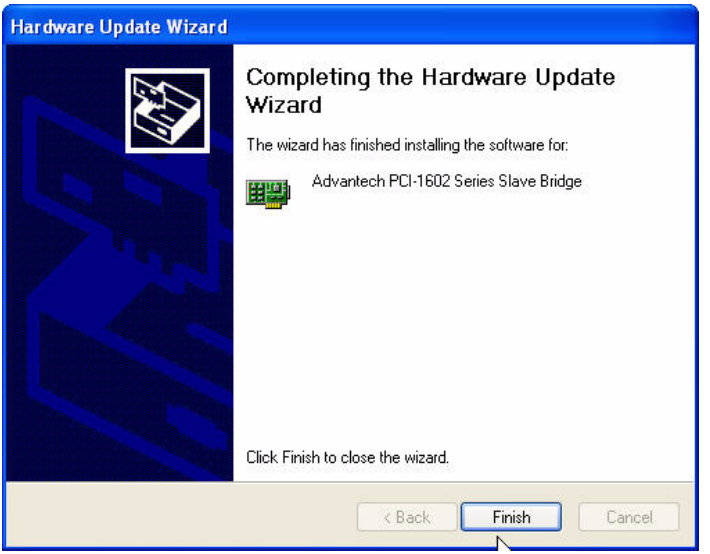


Figure 4.17: Slave Bridge Installation Complete

Step 6: Then, go to “Device Manager”. You can find “Advantech PCI-1602 Series Slave Bridge” is on the list.

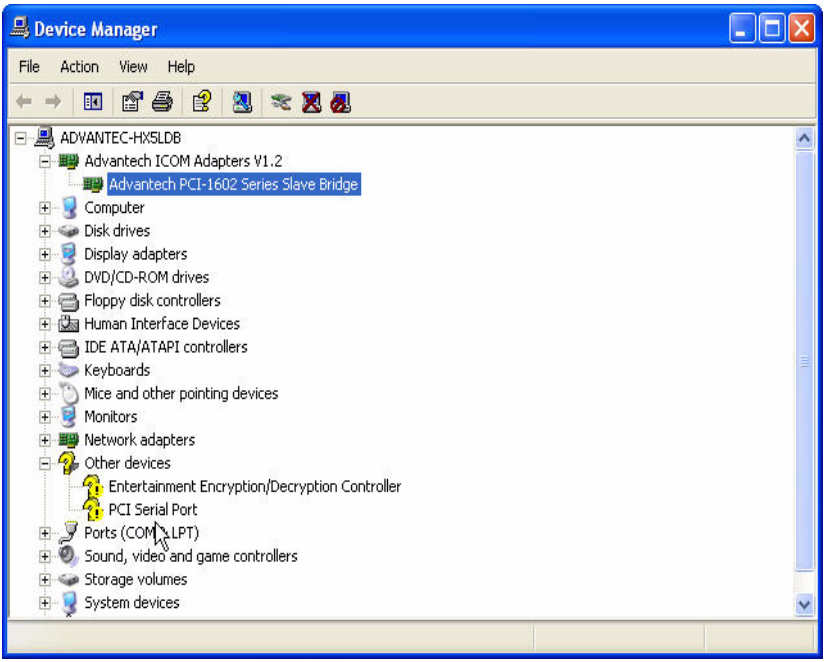


Figure 4.18: PCI-1602 Device Manager

Step 7: And then click “? PCI Serial Port” to update the driver.

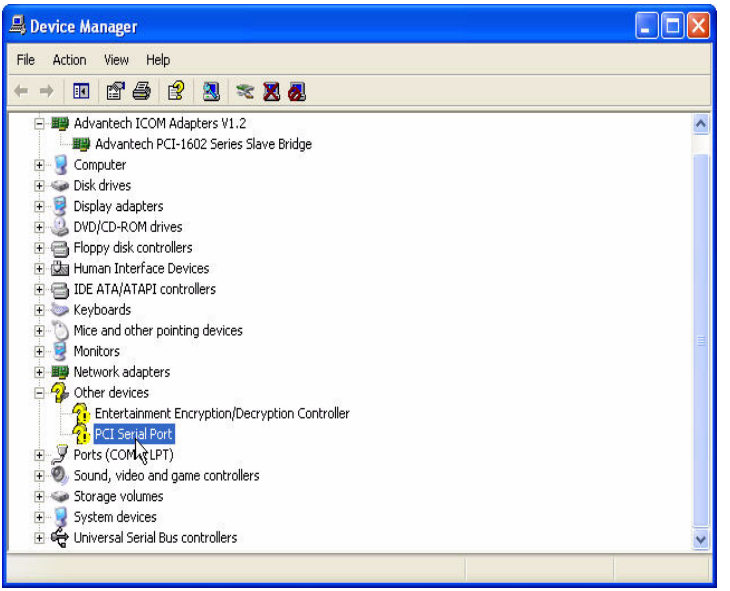


Figure 4.19: PCI Serial port Device Manager

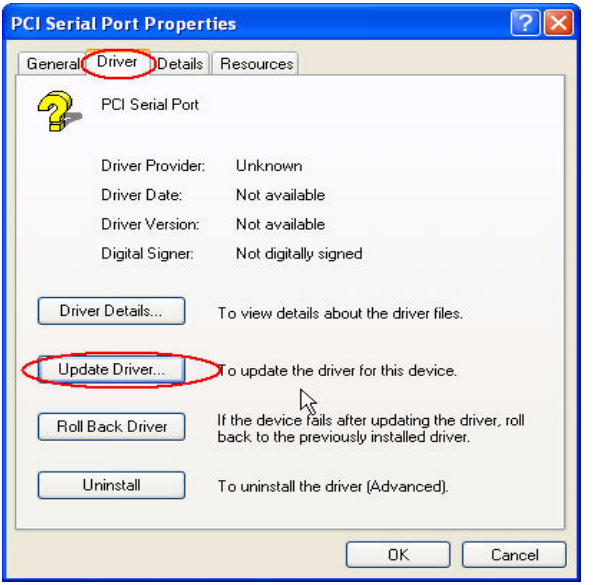


Figure 4.20: Update Driver - 1

Step 8: Follow the hardware update wizard as the figures below.

Hardware Update Wizard
Welcome to the Hardware Update Wizard
This wizard helps you install software for:
PCI Serial Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 4.21: Update Driver - 2

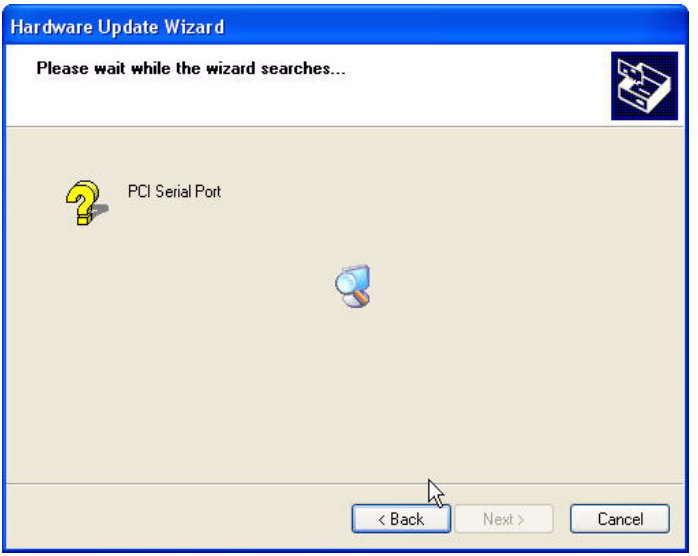


Figure 4.22: Update Driver - 3

Step 9: Complete the Advantech PCI-1602 Series Master Bridge installation.

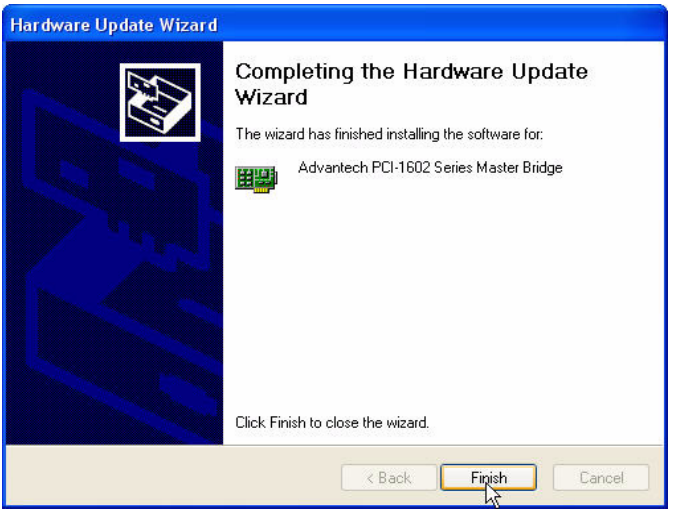


Figure 4.23: PCI-1602 Master Installation

Step 10: Then, follow the wizard the install the software for Advantech PCI serial ports as the below.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
Advantech PCI Serial Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 4.24: PCI Serial Port Installation - 1

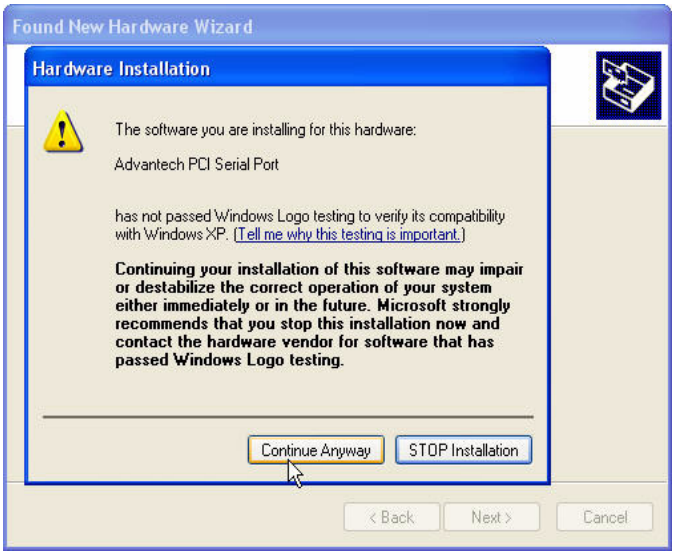

Found New Hardware Wizard
Hardware Installation
The software you are installing for this hardware:
Advantech PCI Serial Port
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
< Back
Next >
Cancel

Figure 4.25: PCI Serial Port Installation - 2

Found New Hardware Wizard
Please wait while the wizard installs the software...
Advantech PCI Serial Port
Setting a system restore point and backing up old files in case your system needs to be restored in the future.
< Back
Next >
Cancel

Figure 4.26: PCI Serial Port Installation - 3

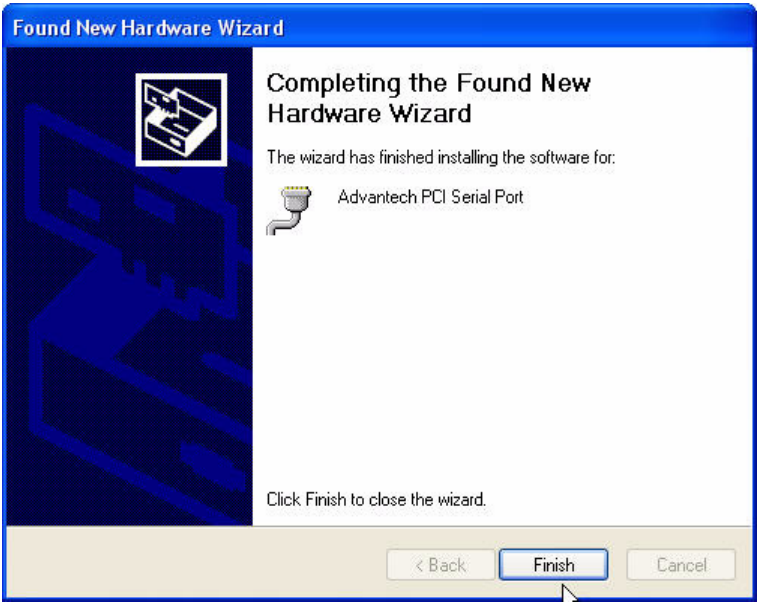

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
Advantech PCI Serial Port
Click Finish to close the wizard.
< Back
Finish
Cancel

Figure 4.27: PCI Serial Port Installation - 4

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
Advantech PCI Serial Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 4.28: PCI Serial Port Installation - 5

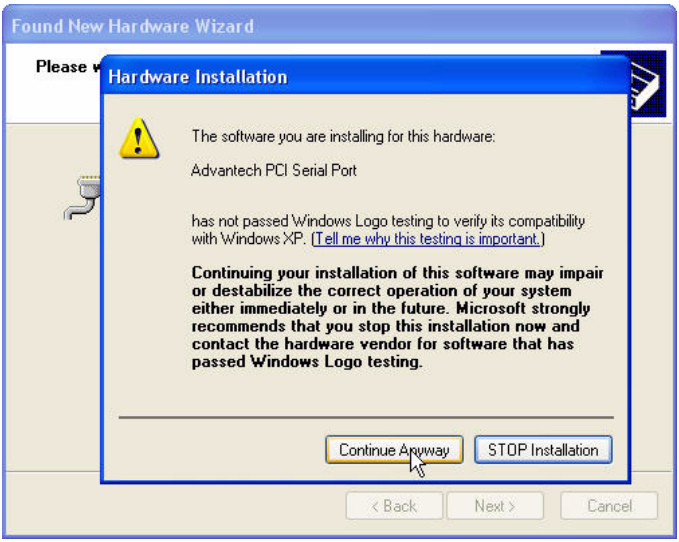

Found New Hardware Wizard
Please w
Hardware Installation
The software you are installing for this hardware:
Advantech PCI Serial Port
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
< Back
Next >
Cancel

Figure 4.29: PCI Serial Port Installation - 6

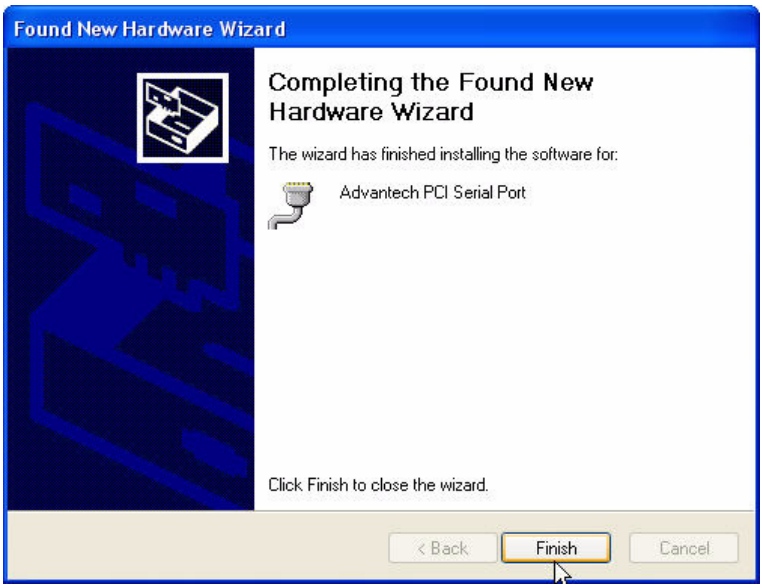

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
Advantech PCI Serial Port
Click Finish to close the wizard.
< Back
Finish
Cancel

Figure 4.30: PCI Serial Port Installation - 7

Step 11: After the steps are done, the software for the com3 and com4 is successfully installed. Go to "Device Manager" and find the list as below.

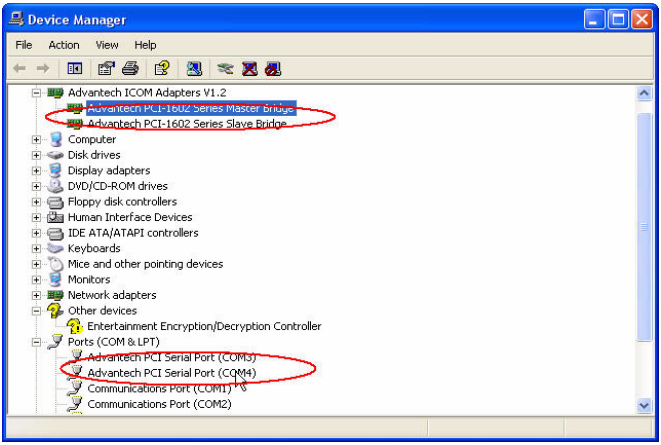


Figure 4.31: Installation Complete

4.3 Entertainment Encryption/Decryption Driver

Step 1: Insert the CD-ROM and go to "Device Manager". Click "Entertainment Encryption/ Decryption Controller"

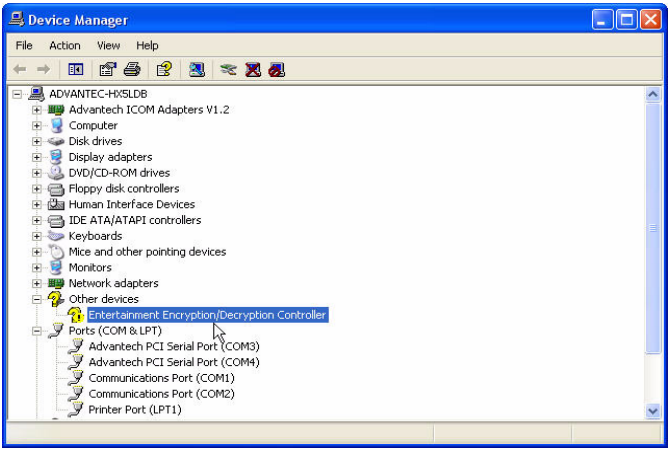


Figure 4.32: Device Manager

Step 2: Following the install shield wizard to finish the setup.

Hardware Update Wizard
Welcome to the Hardware Update Wizard
This wizard helps you install software for:
Entertainment Encryption/Decryption Controller
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 4.33: Install Wizard - 1

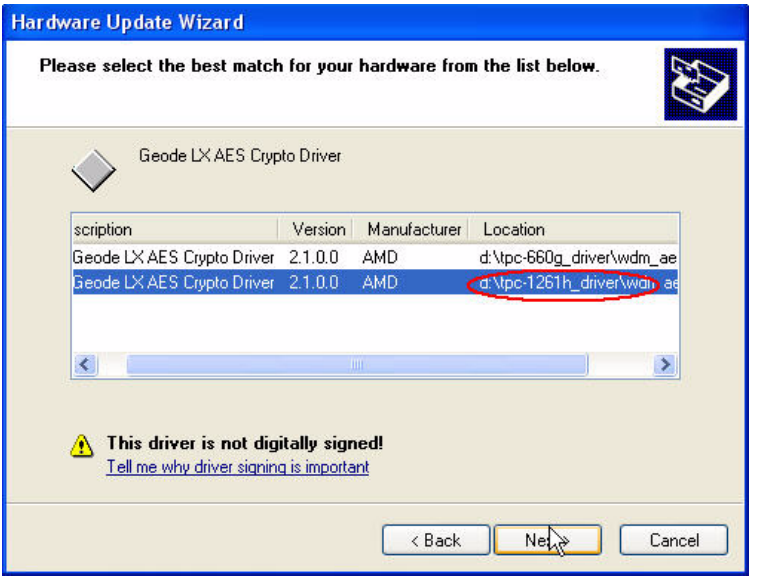

Hardware Update Wizard
Please select the best match for your hardware from the list below.
Geode LX AES Crypto Driver
scription
Version
Manufacturer
Location
Geode LX AES Crypto Driver 2.1.0.0 AMD d:\tpc-660g_driver\wdm_ae
Geode LX AES Crypto Driver 2.1.0.0 AMD
This driver is not digitally signed!
Tell me why driver signing is important
< Back
Cancel

Figure 4.34: Install Wizard - 2

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
Geode LX AES Crypto Driver
Click Finish to close the wizard.
< Back
Finish
Cancel

Figure 4.35: Install Wizard - 3

Step 4: The driver is successfully installed. You can check via "Device Manager" as the below.

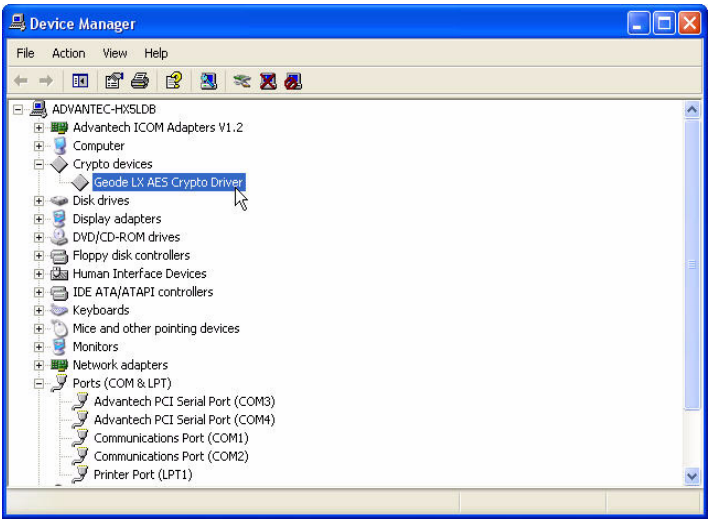


Figure 4.36: Driver Installation Complete

CHAPTER 5

Features in Windows XP Embedded

Sections include:

- EWF
- HORM
- Advantech Utilities

Chapter 5 Features in Windows XP Embedded

TPC-1261H supports the embedded Windows platform. This section outlines the important features (EWF and HORM), that are provided in Windows XP embedded.

5.1 EWF

EWF stands for Enhanced Write Filter. It provides an upper filter in the storage device driver stack that redirects disk write operations to volatile (RAM) or non-volatile (disk) storage. EWF protects a volume from write access. The benefits are as the following.

Write-protect one or more partitions on your system.

Enable read-only media, such as CD-ROM or flash, to boot and run.

Prolong the lifespan of write-sensitive storage, such as CompactFlash.

TPC-1261H XPE provides EWF RAM RDG mode on system partition. All wirte to system partition will be redirected to RMA once this mode is enabled. This mode is manually enabled by customers after they finish all their changes on system such as installing their applications or adjusting system setting.

Advantech provides a pair of utilities to operate EWF, OSLock and OSUnLock. The setting is stated in the section later.

5.2 HORM

HORM stands for Hibernate Once Resume Many. In HORM environment, a single hibernation file is used to boot the system repeatedly. To set a HORM environment, please follow the steps below.

Please make sure EWF is disabled. You can run OSUnLock to disable EWF.

Enable hibernation support:
Run 'power options' in control panel, and then select 'Enable Hibernation' in hibernation pane.

Enable EWF:
Run OSLock, and then system reboot automatically.

Open those software that customers want to directly use after system resume from hibernation.

Hibernate via Advantech HORM utility:
Please Click Start Menu->All Programs->Advantech->HORM

HORM environment remains all along unless the following events occur:

Run EWF commit command (ewfmgr c: -commit) and then reboot system.

Select "Discard hibernation file" by clicking F8 when system is starting up

Also, HORM cannot fit your system if free space in C partition is not enough. The hibernation file required is dependent on the RAM size you use on the system. In other words, the hibernation file is 512MB that is the same as memory size used on TPC-1261H-A1 or TPC-1261H-B1.

5.3 Advantech Utilities

TPC-1261H provides the useful utilities for users to configure the HORM and EWF.

5.3.1 Version Information

Start menu-> All Programs -> Advantech

This states the current XPE runtime information including hardware platform, version, build number, release date, XPE QFEs installed in component database and XP Pro Patches you installed manually.

5.3.2 OSLock and OSUnLock

The two utilities assist users to enable or disable EWF. Please go to Start Menu-> All Programs-> Advantech. The default setting of EWF is disabled. Users can protect C partition from any disk writing via OSLock that is to enable EWF RAM REG Mode. In this mode, any changes on C partition including modification on files or registry will be redirected to memory, thus these changes will be discarded in the next system startup.

To exit this environment is via OSUnLock. Please visit MSDN website for further information about EWF.

5.3.3 HORM

This is to create HORM environment. Please go to Start Menu-> All Programs-> Advantech. This utility firstly dismounts all local physical volumes that are not protected by EWF. It requires users to input the volume list.

Please follow the steps before running this utility to create full HORM environment.

Enable Hibernation via Power Options in Control Panel

Make C: partition EWF-enabled via OSLock

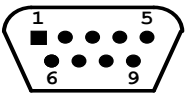
Make sure that all volumes to be dismounted are not in use.

APPENDIX A

Serial Port Settings

Appendix A Serial Port Settings

A.1 COM1/ COM2/ COM3 Connector Definition

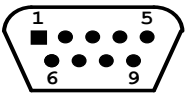


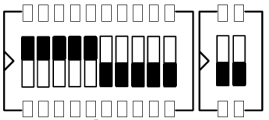
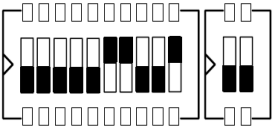
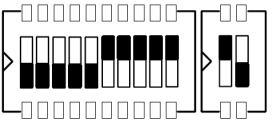
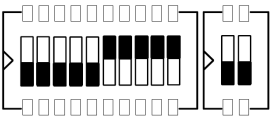
Pin	Signal
1	NDCD
2	NRX
3	NTX
4	NDTR
5	GND
6	NDSR
7	NRTS
8	NCTS
9	NRI

Note: COM1 and COM2 only support half-duplex (Maximum baud rate: 115.2Kbps)

A.2 COM4 Setting

The serial port COM4 on the TPC-1570H is adjustable. It can be set to RS-232, RS-422 or RS-485. This port is designed with auto data flow control capability. In other word, the TPC-1570H can automatically detect the data flow direction at this port when the two wired RS-485 communication is activated.



COM4 Mode	S1 and S2 setting
RS232 Mode	
RS485 Mode	
RS422 Master Mode	
RS422 Slave Mode	

PIN	RS-232	RS-422	RS-485
1	NDCD	TX-	D-
2	NRX	TX+	D+
3	NTX	RX+	
4	NDTR	RX-	
5	GND	GND	GND
6	NDSR		
7	NRTS		
8	NCTS		
9	NRI		

APPENDIX B

Watchdog Timer Programming

Appendix B Watchdog Timer Programming

B.1 Overview

The TPC-1261H watchdog timer can be used to monitor system software operation and take corrective action if the software fails to function after the programmed period. This section describes the operation of the watchdog timer, and how to program it.

The watchdog timer is built into the super I/O controller W83627HF. It provides the following functions for user programming:

- Can be enabled and disabled by user's program.
- Timer can be set from 1 to 255 seconds or 1 to 255 minutes.
- Generates an interrupt or resets signal if the software fails to reset the timer after time-out.

B.2 Watchdog Timer Programming

The I/O port address of the watchdog timer is 2E(hex) and 2F(hex), 2E (hex) is the address port. 2F(hex) is the data port. You must first assign the address of register by writing address value into address port 2E(hex), then write/read data to/from the assigned register through data port 2F (hex).

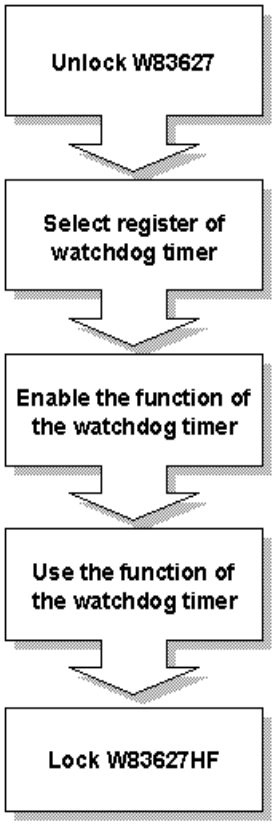

Unlock W83627
Select register of watchdog timer
Enable the function of the watchdog timer
Use the function of the watchdog timer
Lock W83627HF

Figure B.1: Watchdog timer programming procedure

Table B.1: Watchdog Timer Registers		
Address of register (2E)	**Attribute**	**Description**
Read/Write	Value (2F) and description	
87 (hex)	-----	Write this address to I/O address port 2E (hex) twice to unlock the W83627HF
07 (hex)	write	Write 08 (hex) to select register of watchdog timer.
30 (hex)	write	Write 01 (hex) to enable the function of the watchdog timer. Disabled is set as default.
F5 (hex)	write	Set seconds or minutes as units for the timer.
Write 0 to bit 3: set second as counting unit. [default]		
Write 1 to bit 3: set minute as counting unit		
F6 (hex)	write	0: stop timer [default]01~FF (hex): The amount of the count, in seconds or minutes, depends on the value set in register F5 (hex). This number decides how long the watchdog timer waits for strobe before generating an interrupt or reset signal. Writing a new value to this register can reset the timer to count with the new value.
F7 (hex)	rd/wr	Bit 6: Write 1 to enable keyboard to reset the timer, 0 to disable.[default] Bit 5: Write 1 to generate a timeout signal immediately and automatically return to 0. [default=0] Bit 4: Read status of watchdog timer, 1 means timer is "time out".
AA (hex)	-----	Write this address to I/O port 2E (hex) to lock the watchdog timer.2

B.3 Example Programs

1. Enable watchdog timer and set 10 sec. as timeout interval

```
;--------------------------------------------------------
Mov dx,2eh ; Unlock W83627HF
Mov al,87h
Out dx,al
Out dx,al
;--------------------------------------------------------
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;--------------------------------------------------------
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;--------------------------------------------------------
Dec dx ; Set second as counting unit
Mov al,0f5h
Out dx,al
Inc dx
In al,dx
And al,not 08h
Out dx,al
;--------------------------------------------------------
Dec dx ; Set timeout interval as 10 seconds and start counting
Mov al,0f6h
```

```
Out dx,al
Inc dx
Mov al,10
Out dx,al
;--------------------------------------------------------
Dec dx ; lock W83627HF
Mov al,0aah
Out dx,al
```

2. Enable watchdog timer and set 5 minutes as timeout interval

```
;--------------------------------------------------------
Mov dx,2eh ; unlock W83627H
Mov al,87h
Out dx,al
Out dx,al
;--------------------------------------------------------
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;--------------------------------------------------------
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;--------------------------------------------------------
Dec dx ; Set minute as counting unit
Mov al,0f5h
```

```
Out dx,al
Inc dx
In al,dx
Or al,08h
Out dx,al
;--------------------------------------------------------
Dec dx ; Set timeout interval as 5 minutes and start counting
Mov al,0f6h
Out dx,al
Inc dx
Mov al,5
Out dx,al
;--------------------------------------------------------
Dec dx ; lock W83627HF
Mov al,0aah
Out dx,al
```

3. Enable watchdog timer to be reset by mouse

```
;--------------------------------------------------------
Mov dx,2eh ; unlock W83627H
Mov al,87h
Out dx,al
Out dx,al
;--------------------------------------------------------
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;--------------------------------------------------------
Dec dx ; Enable the function of watchdog timer
```

```
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;--------------------------------------------------------
Dec dx ; Enable watchdog timer to be reset by mouse
Mov al,0f7h
Out dx,al
Inc dx
In al,dx
Or al,80h
Out dx,al
;--------------------------------------------------------
Dec dx ; lock W83627HF
Mov al,0aah
Out dx,al
```

4. Enable watchdog timer to be reset by keyboard

```
;--------------------------------------------------------
Mov dx,2eh ; unlock W83627H
Mov al,87h
Out dx,al
Out dx,al
;--------------------------------------------------------
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;--------------------------------------------------------
```

```
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;--------------------------------------------------------
Dec dx ; Enable watchdog timer to be strobed reset by keyboard
Mov al,0f7h
Out dx,al
Inc dx
In al,dx
Or al,40h
Out dx,al
;--------------------------------------------------------
Dec dx ; lock W83627HF
Mov al,0aah
Out dx,al
```

5. Generate a time-out signal without timer counting

```
;--------------------------------------------------------
Mov dx,2eh ; unlock W83627H
Mov al,87h
Out dx,al
Out dx,al
;--------------------------------------------------------
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
```

```
;------------------------------------------------------------
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;------------------------------------------------------------
Dec dx ; Generate a time-out signal
Mov al,0f7h
Out dx,al ;Write 1 to bit 5 of F7 register
Inc dx
In al,dx
Or al,20h
Out dx,al
;------------------------------------------------------------
Dec dx ; lock W83627HF
Mov al,0aah
Out dx,al
```

APPENDIX C

Watchdog Timer Programming on WinCE

Appendix C Watchdog Timer Programming on WinCE

There is a built-in watchdog timer in Windows CE 4.2 for TPC-1261H. You can access it through the WIN32 API. TPC-1261H provides a WDT driver to allow users to enable/disable the watchdog timer. The driver name is “WDT1:”. Programmers must open this driver before using the resources. Then programmers can use DeviceIOControl functions to enable/disable the watchdog timer. The introduction below includes DeviceIOControl, the definition of the parameter and an example.

C.1 DeviceIOControl

This function sends a control code directly to a specified device driver, causing the corresponding device to perform the specified operation.

BOOL DeviceIoControl(

HANDLE hDevice,

DWORD dwIoControlCode,

LPVOID lpInBuffer,

DWORD nInBufferSize,

LPVOID lpOutBuffer,

DWORD nOutBufferSize,

LPDWORD lpBytesReturned,

LPOVERLAPPED lpOverlapped);

C.1.1 Parameters

- hDevice
  [in] Handle to the device that is to perform the operation. Call the CreateFile function to obtain a device handle.
- dwIoControlCode
  [in] Specifies the control code for the operation. This value identifies the specific operation to be performed and the type of device on which the operation is to be performed. No specific values are defined for the dwIoControlCode parameter. However, the writer of a custom device driver can define IOCTL_XXXX control codes, per the CTL_CODE macro. These control codes can then be advertised, and an application can use these control codes with DeviceIoControl to perform driver-specific functions.
- lpInBuffer
  [in] Long pointer to a buffer that contains the data required to perform the operation. This parameter can be NULL if the dwIoControlCode parameter specifies an operation that does not require input data.
- nInBufferSize
  [in] Size, in bytes, of the buffer pointed to by lpInBuffer.
- lpOutBuffer
  [out] Long pointer to a buffer that receives the operation.s output data. This parameter can be NULL if the dwIoControlCode parameter specifies an operation that does not produce output data.
- nOutBufferSize
  [in] Size, in bytes, of the buffer pointed to by lpOutBuffer.
- lpBytesReturned
  [out] Long pointer to a variable that receives the size, in bytes, of the data stored into the buffer pointed to by lpOutBuffer. The lpBytesReturned parameter cannot be NULL. Even when an operation produces no output data, and lpOutBuffer can be NULL, the DeviceIoControl function makes use of the variable pointed to bylpBytesReturned. After such an operation, the value of the variable is without meaning.
- lpOverlapped
  [in] Ignored; set to NULL.
- Return Values
  Nonzero indicates success. Zero indicates failure. To get extended error information, call GetLastError.

C.2 How to Use the Control Code

There are 6 control codes for the operation codes in the WDT driver.

C.2.1 IOCTL _WDT_ENABLE:

Enables the watchdog timer of your application. By default, if the watchdog timer is enabled, the WDT driver will automatically trigger itself after the specified period and your application does not need to trigger the watchdog timer.

lpInBuffer: unused.

nInBufferSize: unused.

lpOutBuffer: unused.

nOutBufferSize: unused.

C.2.2 IOCTL _WDT_DISABLE:

Disables the watchdog time of your application.

lpInBuffer : unsed.

nInBufferSize: unused.

lpOutBuffer: unused.

nOutBufferSize: unused.

C.2.3 IOCTL_WDT_STROBE:

Triggers the watchdog. If your application uses IOCTL_WDT_ENABLE to enable the watchdog first and then sends IOCTL_WDT_REBOOT to the WDT driver, your application must trigger the watchdog once during the watchdog timer period. If your application has not triggered at the specified period, the device will reboot automatically.

lpInBuffer: unused.

nInBufferSize: unused.

lpOutBuffer: unused.

nOutBufferSize: unused.

C.2.4 IOCTL_WDT_GETTIMEOUT:

Gets the Watchdog time setting.

lpInBuffer: unused.

nInBufferSize: unused.

lpOutBuffer: The DWORD points to your watchdog time setting. The Watchdog time setting is just a number. 0 means 2 seconds, 1 means 5 seconds, 2 means 10 seconds, 3 means 15 seconds, 4 means 30 seconds, 5 means 45 seconds and 6 means 60 seconds. The default setting is 5 seconds.

nOutBufferSize: unused.

C.2.5 IOCTL_WDT_SETTIMEOUT:

Sets the watchdog time setting.

lpInBuffer : The DWORD points to your watchdog time setting. The watchdog time setting is just a number. 0 means 2 seconds, 1 means 5 seconds, 2 means 10 seconds, 3 means 15 seconds, 4 means 30 seconds, 5 means 45 seconds and 6 means 60 seconds. The default setting is 5 seconds.

nInBufferSize:.unused.

lpOutBuffer: unused.

nOutBufferSize: unused.

C.2.6 IOCTL_WDT_REBOOT:

If you want your application to trigger the watchdog by itself, please use IOCTL_WDT_REBOOT to notify the watchdog driver timer (WDT). Otherwise, the WDT will trigger itself automatically.

lpInBuffer :unused.

nInBufferSize: unused.

lpOutBuffer: unused.

nOutBufferSize: unused.

C.3 Examples

```
#define WDT_CODE(ID)
CTL_CODE(FILE_DEVICE_UNKNOWN,ID,
METHOD_BUFFERED, FILE_ANY_ACCESS)
#define IOCTL_WDT_ENABLE WDT_CODE (0x900)
#define IOCTL_WDT_DISABLE WDT_CODE(0x901)
#define IOCTL_WDT_STROBE WDT_CODE(0x902)
#define IOCTL_WDT_GET_TIMEOUT WDT_CODE(0x903)
#define IOCTL_WDT_SET_TIMEOUT WDT_CODE(0x904)
#define IOCTL_WDT_REBOOT WDT_CODE(0x905)
// for compatibility reasons, you can define IOCTL as below:
// #define IOCTL_WDT_ENABLE 0x1001
// #define IOCTL_WDT_DISABLE 0x1002
// #define IOCTL_WDT_STROBE 0x1003
// #define IOCTL_WDT_GETTIMEOUT 0x1004
// #define IOCTL_WDT_SETTIMEOUT 0x1005
// #define IOCTL_WDT_REBOOT 0x1006
HANDLE m_hWDT=NULL;
TCHAR szClassName[60];
// assign the WDT driver name
wsprintf(szClassName, TEXT("WDT1:"));
// Open the WDT driver
m_hWDT = CreateFile(szClassName, GENERIC_READ
GENERIC_WRITE, 0, NULL, OPEN_EXISTING,
FILE_ATTRIBUTE_NORMAL, NULL);
if ( m_hWDT == INVALID_HANDLE_VALUE ) {
DebugMsg(CString("WDT driver fail"));
return;
}
DWORD dwTemp;
DWORD nIndex=2;
```

```
// Set the Watchdog Timer as 10 seconds. Number 2 means 10 seconds.
DeviceIoControl(m_hWDT, IOCTL_WDT_SET_TIMEOUT, &nIndex,
sizeof(nIndex), NULL, 0, &dwTemp, NULL);
// Enable the Watchdog timer
DeviceIoControl(m_hWDT, IOCTL_WDT_ENABLE, NULL, 0, NULL,
0, &dwTemp, NULL);
While (1) {
// do your job here.
Sleep(8000);
DeviceIoControl(m_hWDT, IOCTL_WDT_STROBE, NULL,0,
NULL, 0, &dwTemp, NULL);
}
DeviceIoControl(m_hWDT, IOCTL_WDT_DISABLE, NULL, , NULL,
0, &dwTemp, NULL);
CloseHandle(m_hWDT);
```

APPENDIX D

Accessory Kit Assembly Procedure

This appendix shows how to connect to a CD-ROM via the CompactFlash slot.:

Appendix D Accessory Kit Assembly Procedure

D.1 CompactFlash to IDE Transfer Kit

Please follow this assembly procedure to use the CompactFlash slot to connect with a CD-ROM drive.

1. Connect the IDE cable to the adapter board.

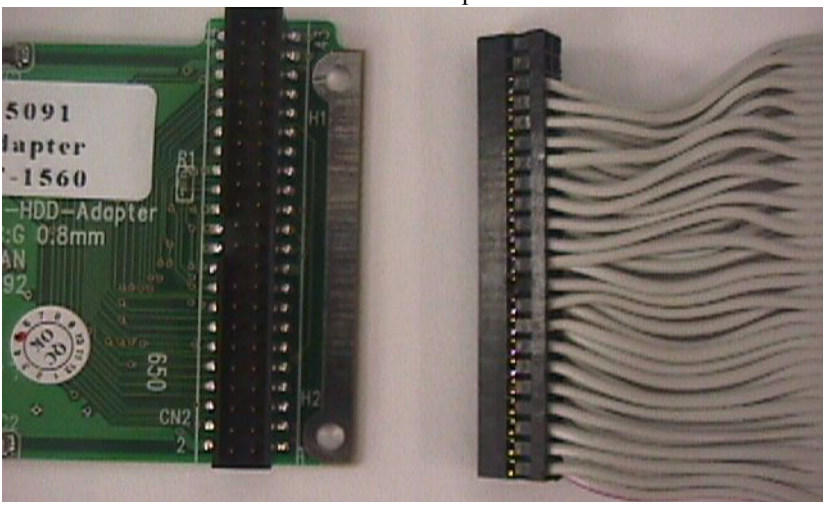


Figure D.1: Adapter Board and IDE Cable

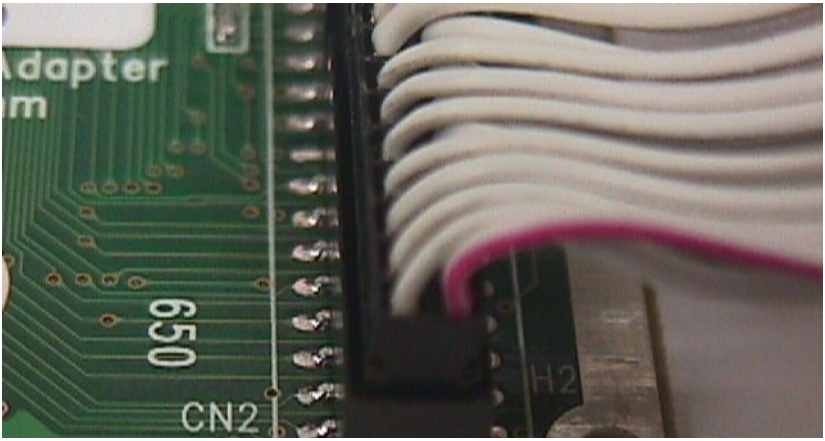


Figure D.2: Connecting the Adapter Board

Note *Pin 1 is marked red*

2. Insert the adapter board into the CompactFlash slot.

Figure D.3: CompactFlash Slot

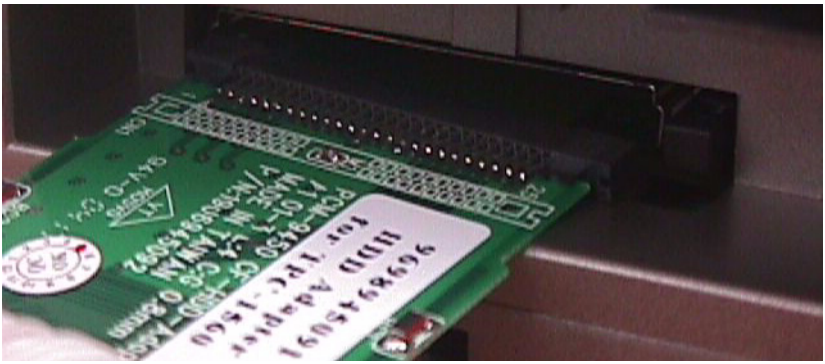


Figure D.4: Insert the Adapter Board into the CF slot

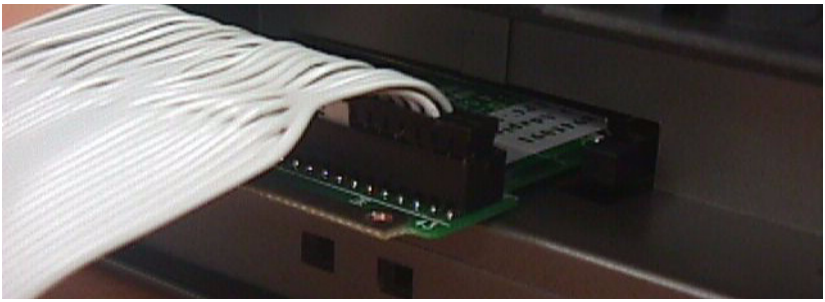


Figure D.5: Inserted Adapter Board

Connect the CD-ROM to the adapter board via the IDE cable and then connect the external power line to the CD-ROM.

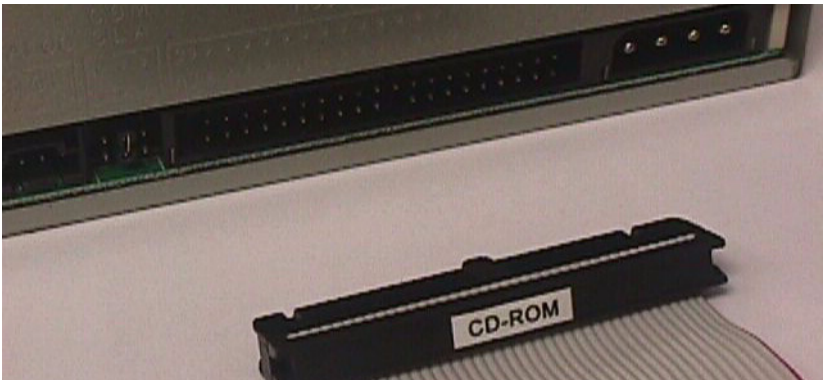


Figure D.6: Connect the CD-ROM via the IDE Cable

Figure D.7: Plugging in the CD-ROM Drive

APPENDIX E

HDD Kit Assembly

Appendix E HDD Kit Assembly

TPC-1261H provides two way to assemble the HDD into the system. The ruggized HDD kit is to resist against the high vibration.

E.1 Ruggedized HDD Kit

Please follow the assembly procedure to install the HDD into the system.

1. Remove the default HDD cover from the system. The required parts are shown below.

.

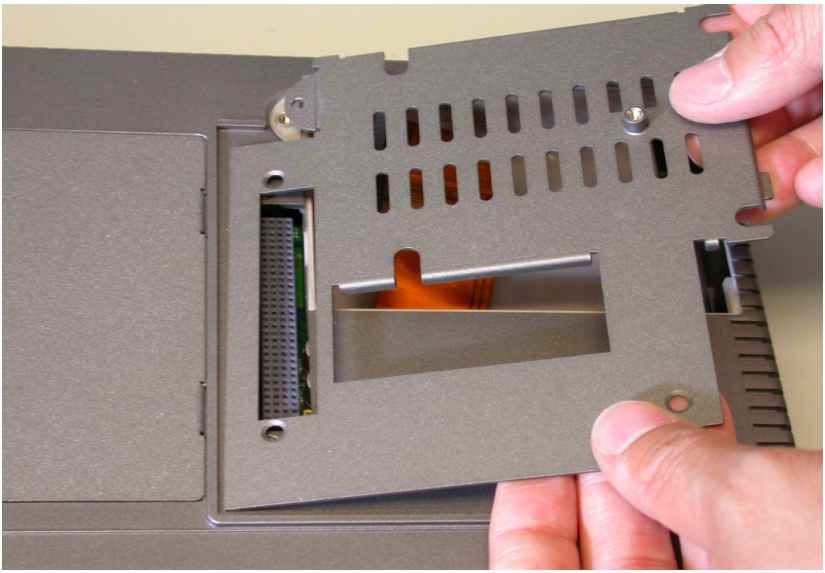


Figure E.1: Removing the HDD cover

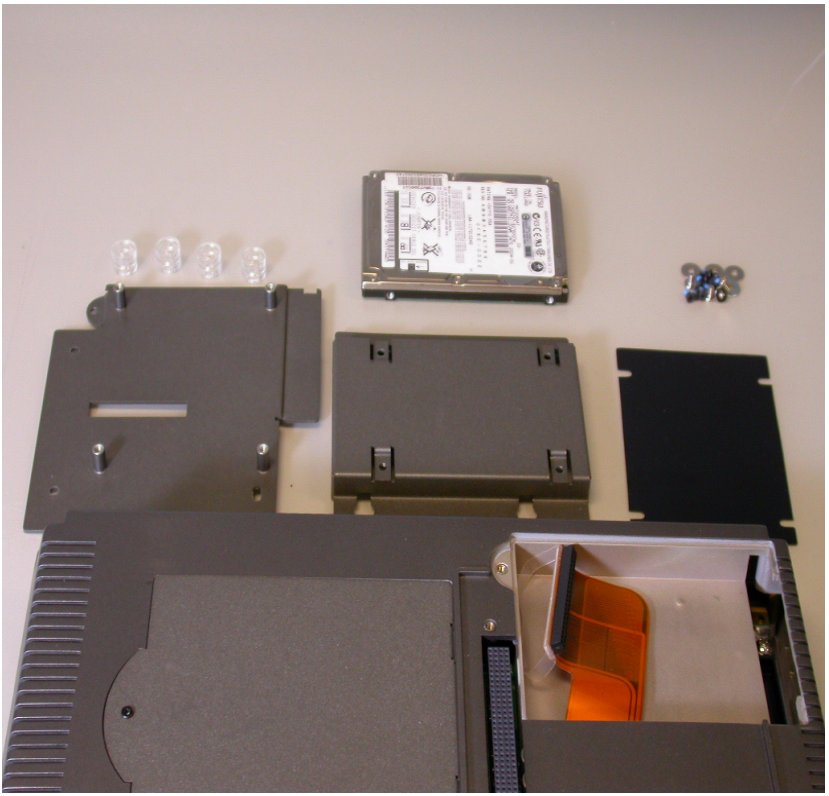


Figure E.2: Required Parts

2. Place the base bracket on the rear case and carefully pull out the FPC cable through the hole of the bracket

.

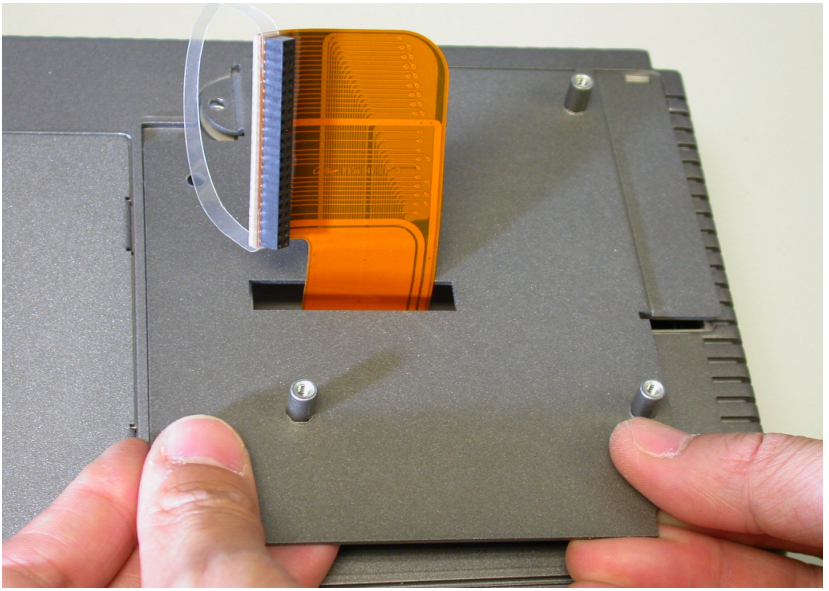


Figure E.3: Opening the Top

3. Fasten the base on the rear case of the system by 5 screws.

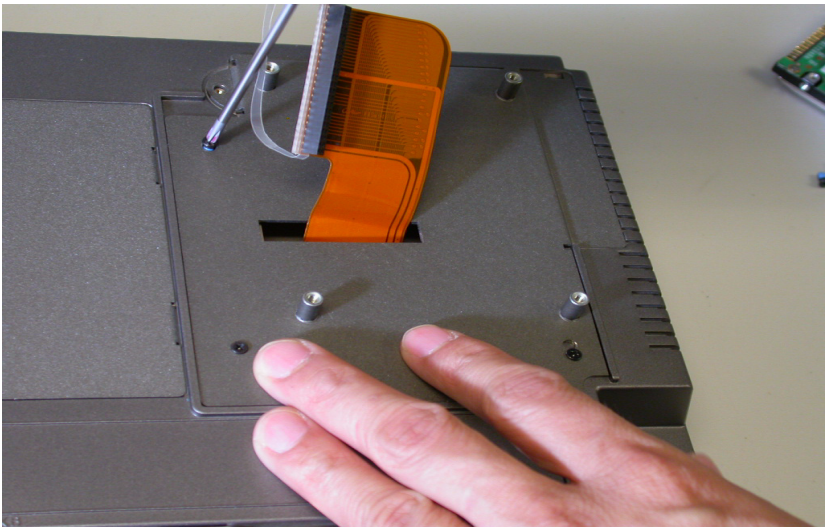


Figure E.4: Fastening the bracket

4. Carefully connect the FPC cable to the HDD and then put the HDD insultor on the HDD.

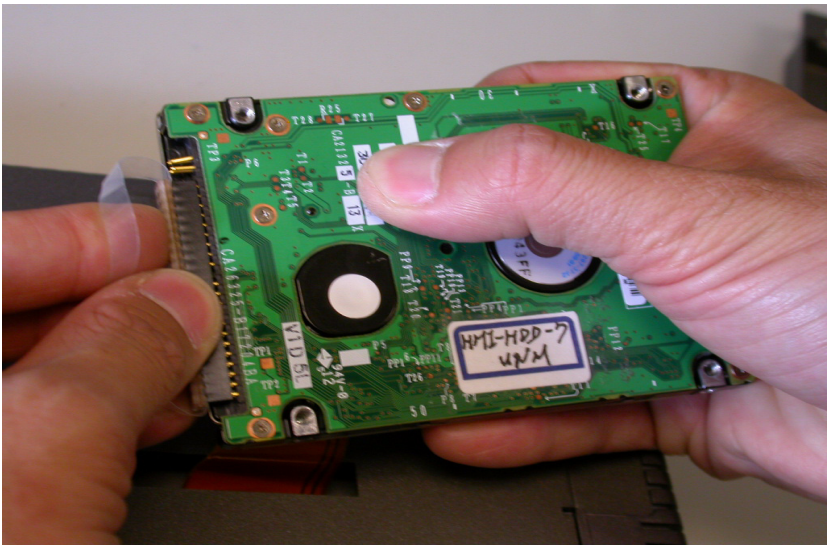


Figure E.5: Connectting the FPC with the HDD

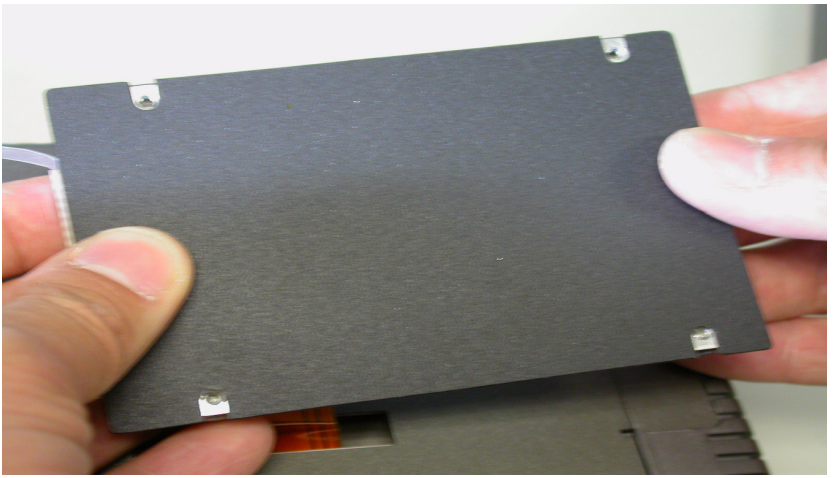


Figure E.6: Placing the HDD insulator on the HDD

5. Fasten the HDD holder with the HDD and HDD insulator. Please turn over the HDD holder and fasten them with 4 screws.

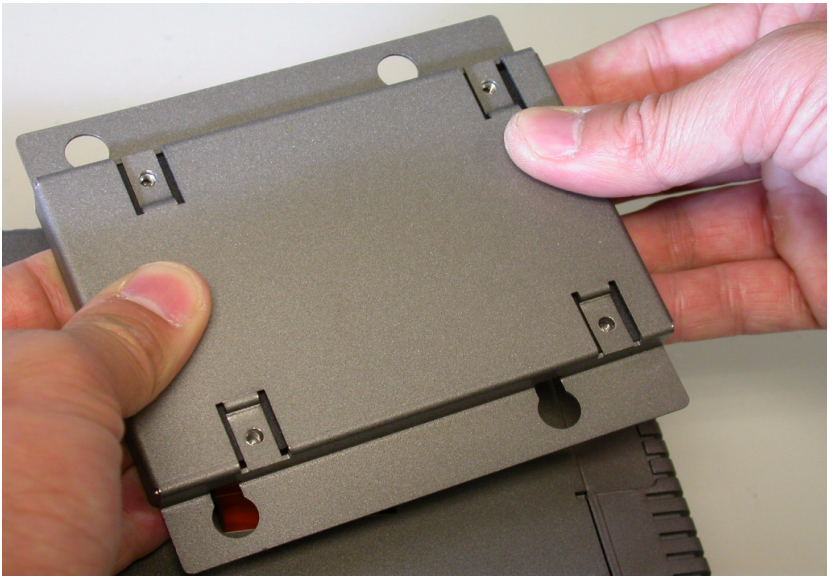


Figure E.7: Reverse side of the HDD holder

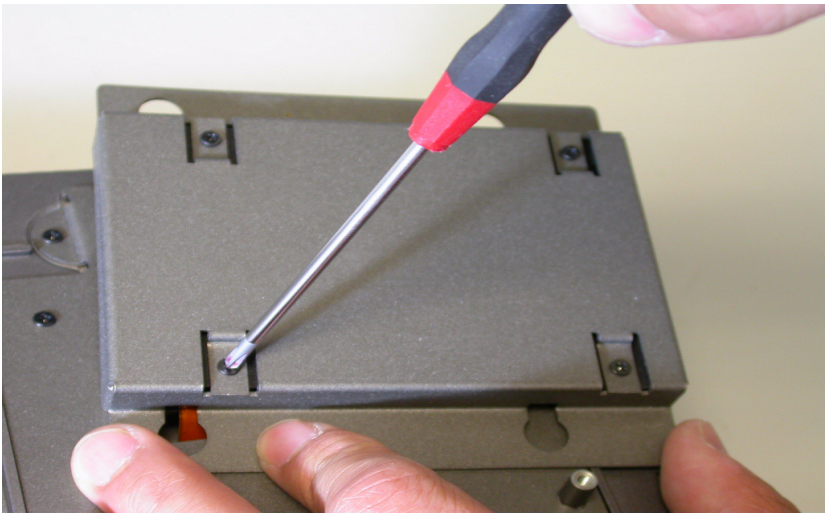


Figure E.8: Fastening the HDD holder

6. Mount the HDD cushions with the HDD holder.

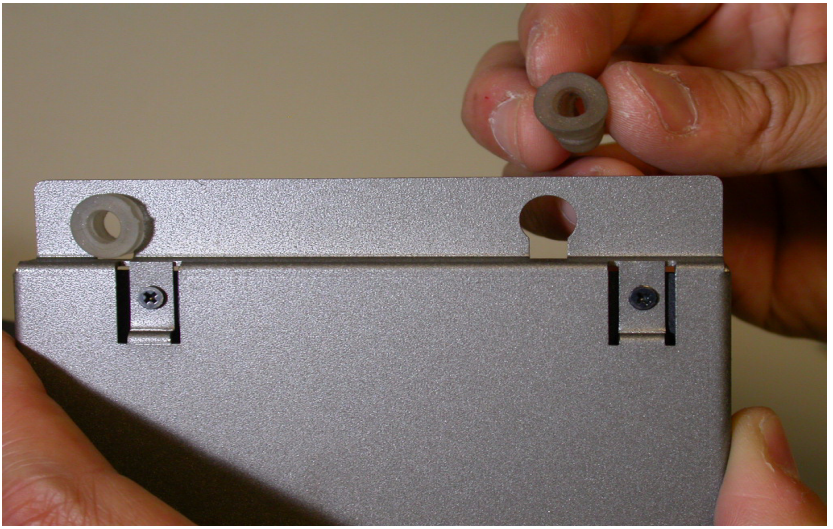


Figure E.9: Mounting the cushions - 1

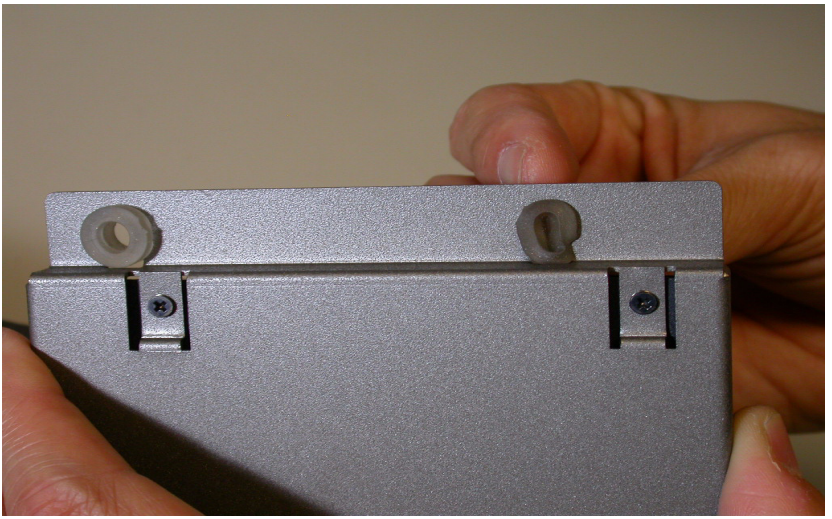


Figure E.10: Mounting the cushions - 2

7. Place the HDD holder on the rear cover of the system and then fasten the holder with the system by four screws. Then, the assembly of high vibration resistance HDD module is done.

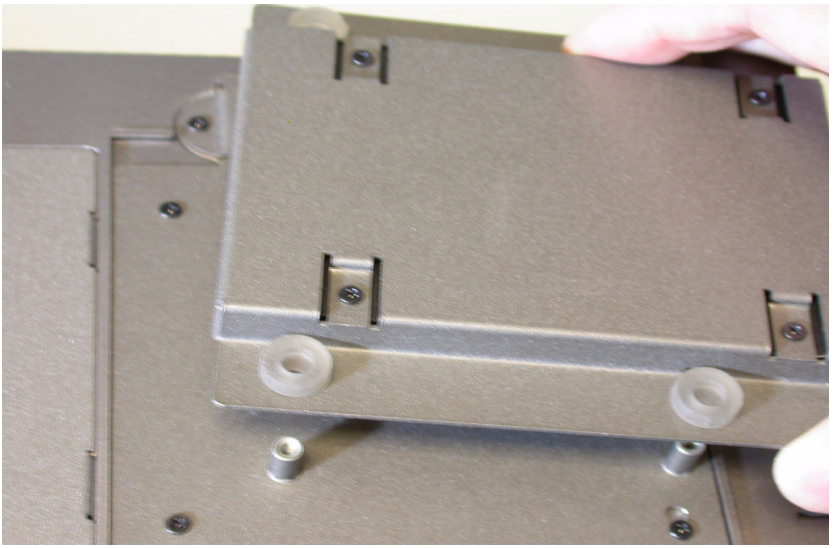


Figure E.11: Placing the HDD holder - 1

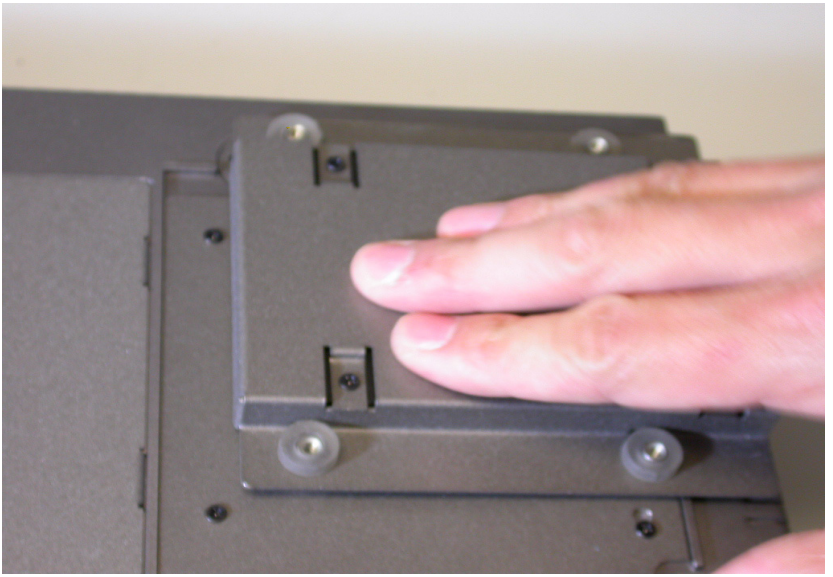


Figure E.12: Placing the HDD holder - 2

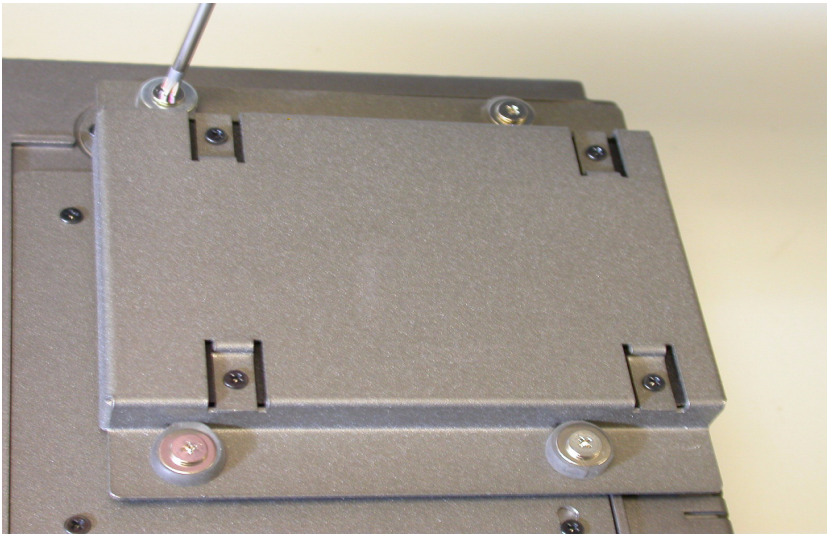


Figure E.13: Fastening the HDD holder

E.2 Internal HDD Kit Assembly

Please follow the steps to assemble the internal HDD kit.

1. Remove the default HDD cover from the system.

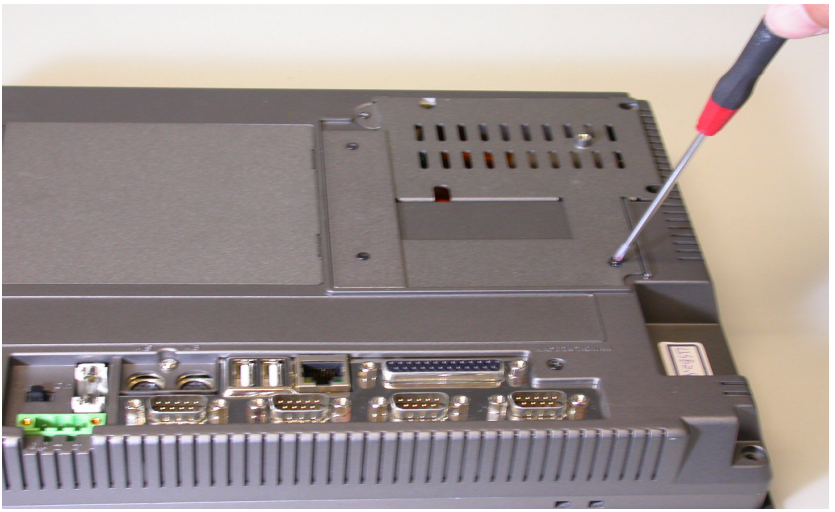


Figure E.14: Removing the HDD cover

2. There are four rubber screw casings, and four screws. Places the screws into their casings

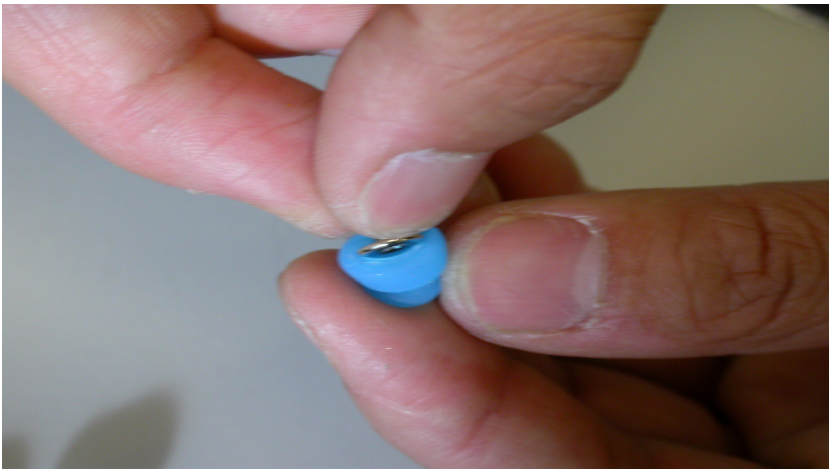


Figure E.15: Placing a screw into its rubber casing

3. Mount the rubber HDD cushions on the HDD cover.

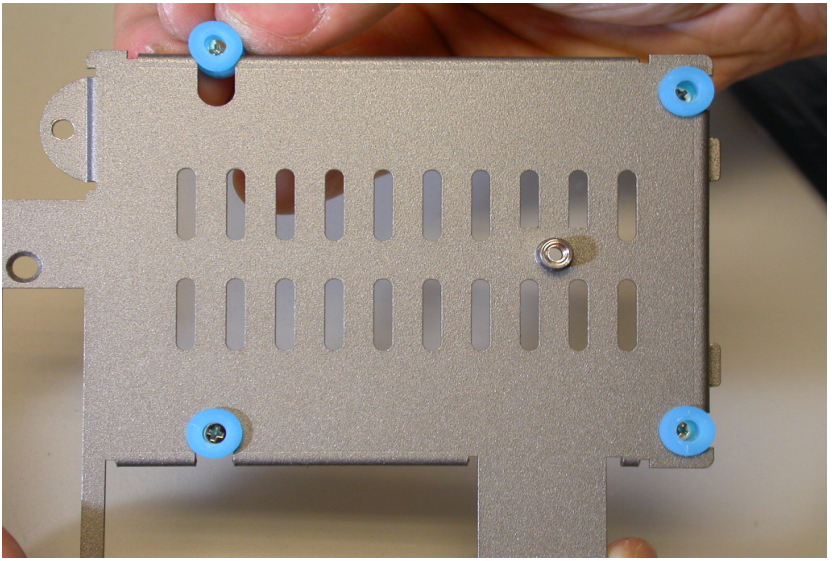


Figure E.16: Mounting the rubber casings

4. Connect the FPC cable to the HDD

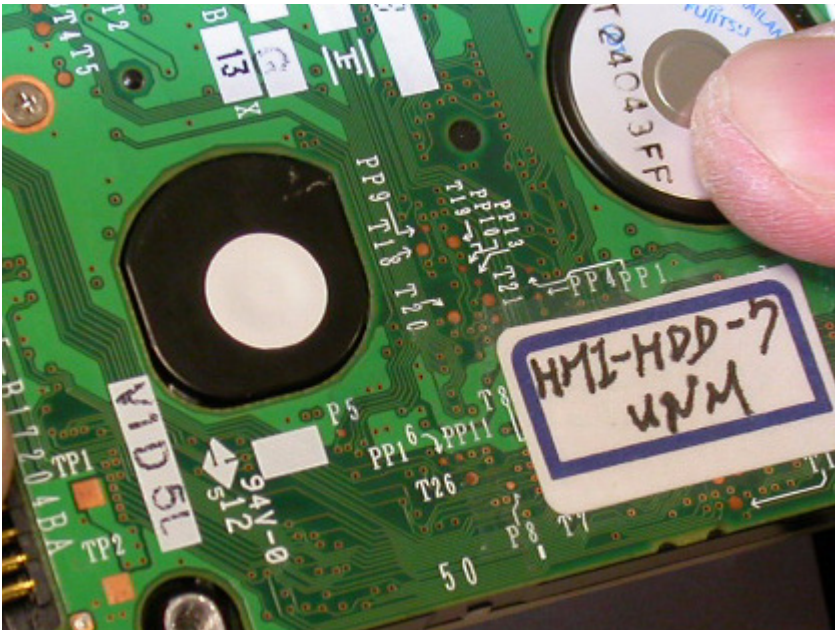


Figure E.17: Connecting the FPC cable

5. Put the HDD into the hole of the rear case.

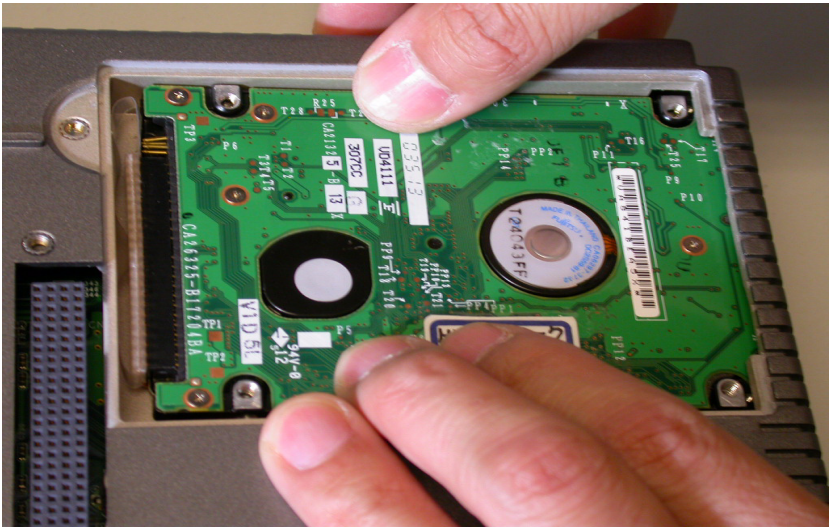


Figure E.18: Inserting the HDD

6. Lay the HDD insulator in right direction.

Figure E.19: Laying in the HDD insulator

7. Place the default HDD cover on the system.

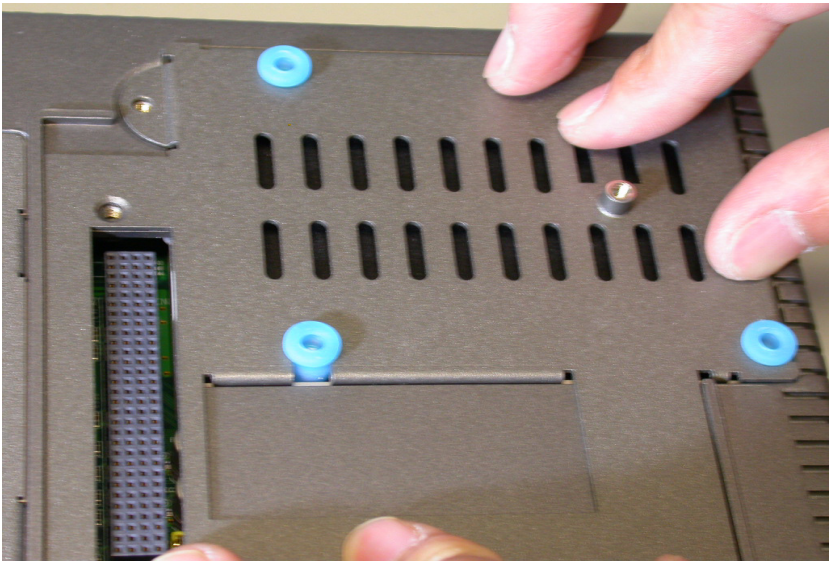


Figure E.20: Placing the cover back into position

8. Fasten the default HDD cover with the system.

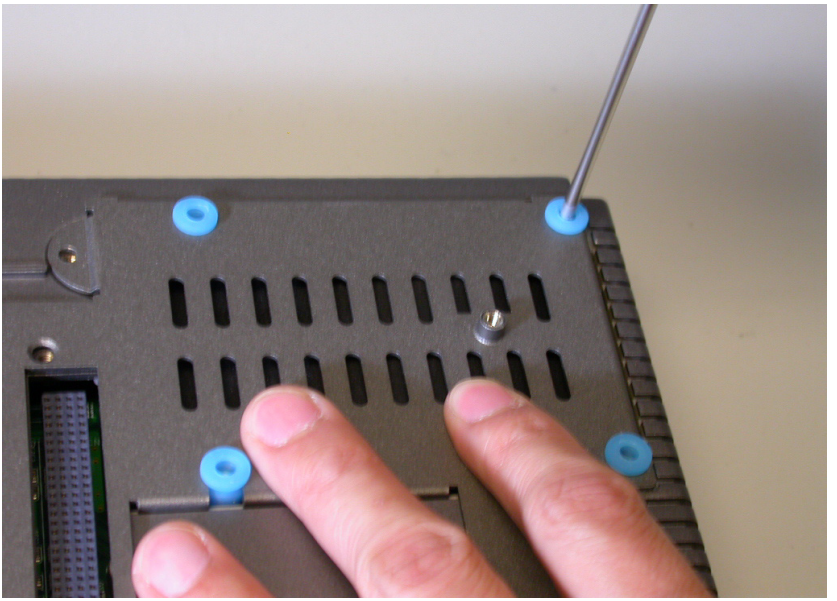


Figure E.21: Re-fastening the cover - 1

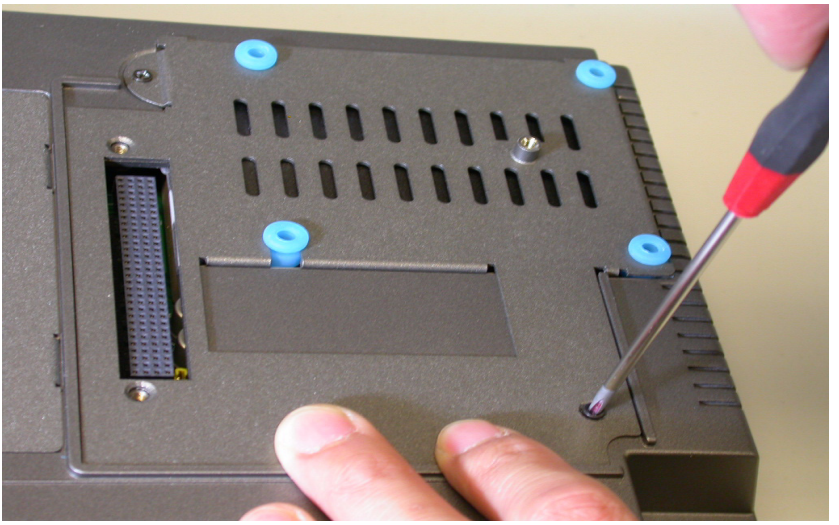


Figure E.22: Re-fastening the cover - 2

9. Place the bracket of PCI/104 on the slot and fasten it into place.

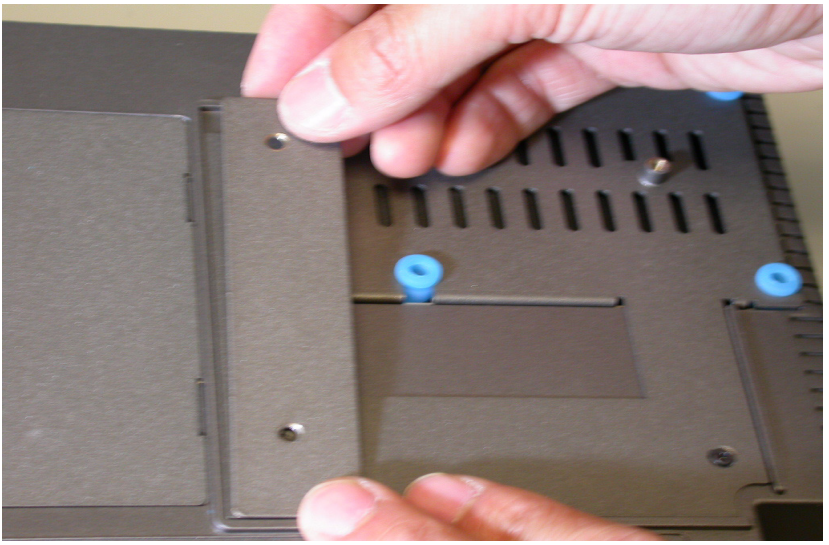


Figure E.23: Fastening the PCI/104 bracket - 1

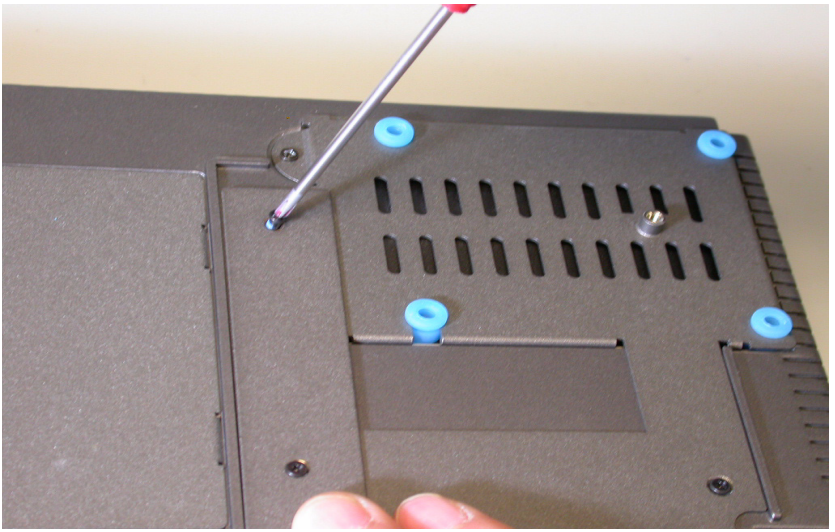


Figure E.24: Fastening the PCI/104 bracket - 2

APPENDIX F

Touchscreen Installation & Configuration

This appendix demonstrates how to install the PenMount touchscreen and set the configuration on TPC-1261H. This section uses Windows XP as an example.

Appendix F Touchscreen Installation & Configuration

F.1 Driver Installation

Please insert the x86 TPC series support CD and go to the driver folder: (TPC-1261H\Driver\USB touchscreen). Click setup.exe

Figure F.1: Setup.exe

The screen displays the installation wizard for the PenMount USB software. Click “Next”. Follow the installation wizard step by step

.

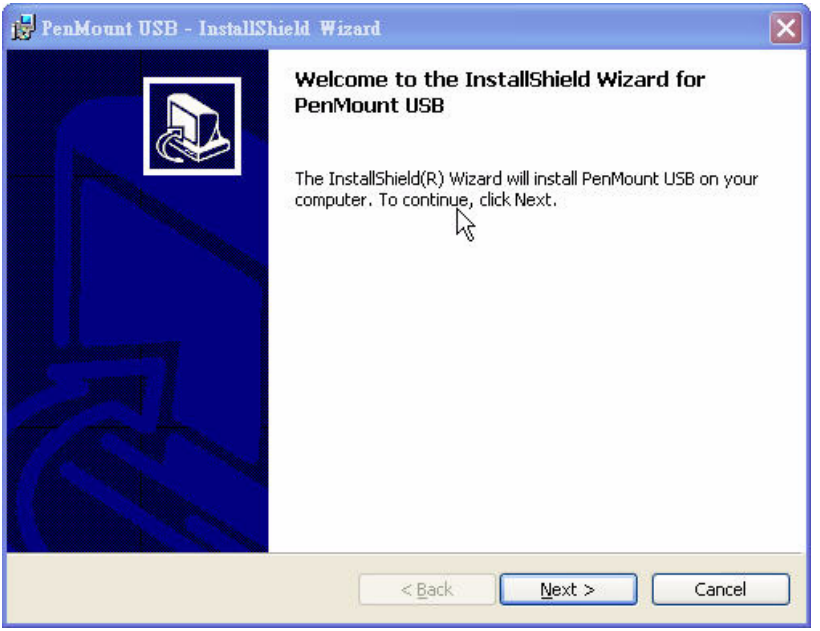

PenMount USB - InstallShield Wizard
Welcome to the InstallShield Wizard for PenMount USB
The InstallShield(R) Wizard will install PenMount USB on your computer. To continue, click Next.
< Back
Next >
Cancel

Figure F.2: Install Wizard - 1

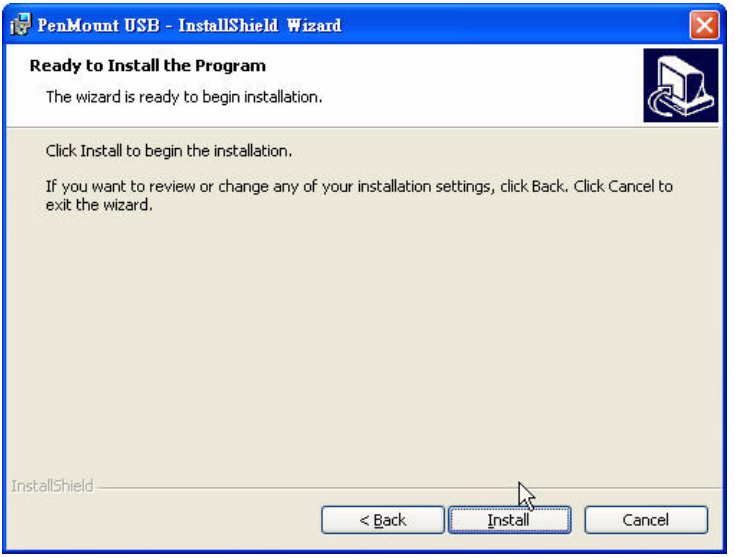

PenMount USB - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

Figure F.3: Install Wizard - 2

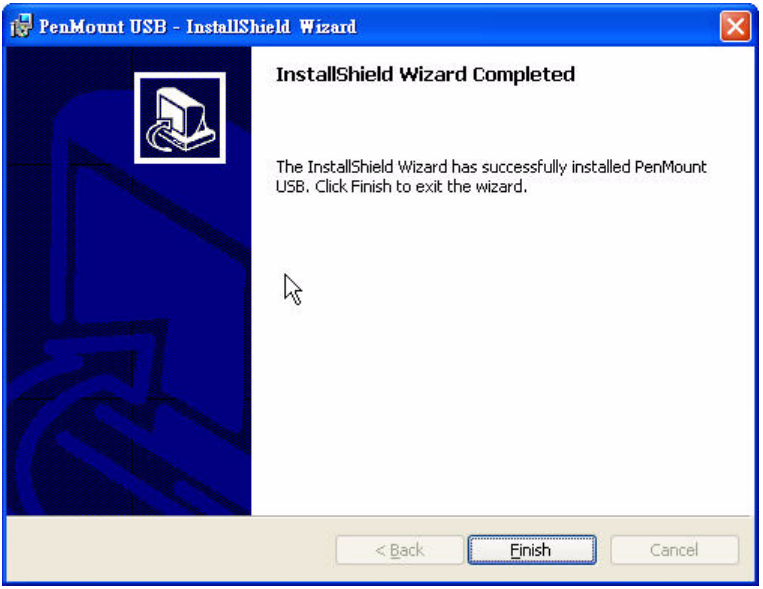

PenMount USB - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed PenMount USB. Click Finish to exit the wizard.
< Back
Finish
Cancel

Figure F.4: Install Wizard - 3

F.2 Uninstall the Driver

Please go to Settings and then select Control Panel. Please click Add/ Remove Programs.

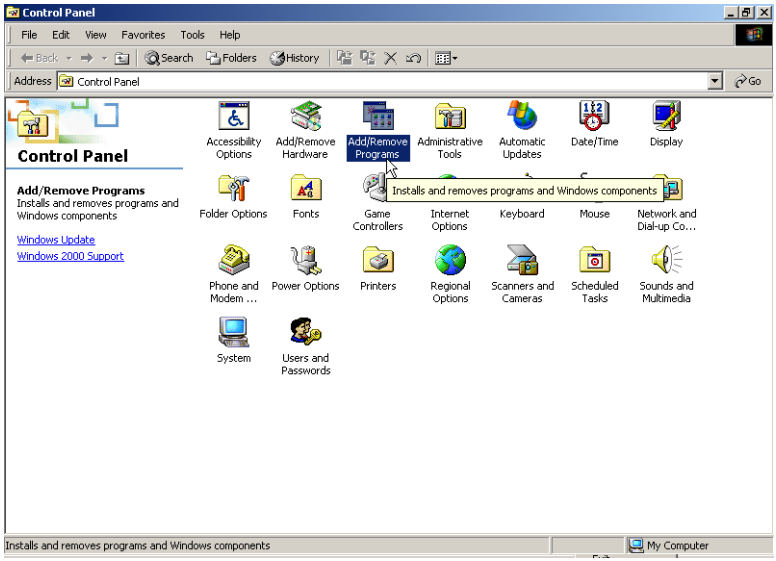


Figure F.5: Uninstall -1

Select PenMount USB. Click Remove button. Then, select "Yes" to remove the PenMountUSB driver and reboot the system

..

Adavantech ICOM Tools 大小 0.78MB
Advantech PCI ICOM 大小 0.79MB
Macromedia Shockwave Player 大小 9.42MB
Microsoft .NET Framework 1.1
Microsoft .NET Framework 1.1 Chinese (Traditional) Lang. Pack 大小 2.85MB
MSN Messenger 6.2 大小 5.79MB
PenMount USB 大小 2.29MB
按這裡取得支援資訊。 已使用 很少
要從您的電腦移除這個程式，請按 [移除]。 移除
SnagIt 7 大小 17.17MB
Windows HCT 11.2 大小 389.00MB
WinRAR 壓縮工具 大小 3.04MB

Figure F.6: Uninstall -2

F.3 Touchscreen Calibration

The “PM”, the icon of the PenMount Control Panel, is in the menu bar after the touchscreen installation. Please click the icon “PM” to call PenMount Control Panel. It contains six functions: Calibrate, Draw, Option, and About. About shows the driver version.

Calibrate

Two ways to calibrate the touchscreen include “Standard Calibration” and “Advanced Calibration”. Standard Calibration is to adjust most touchscreens.

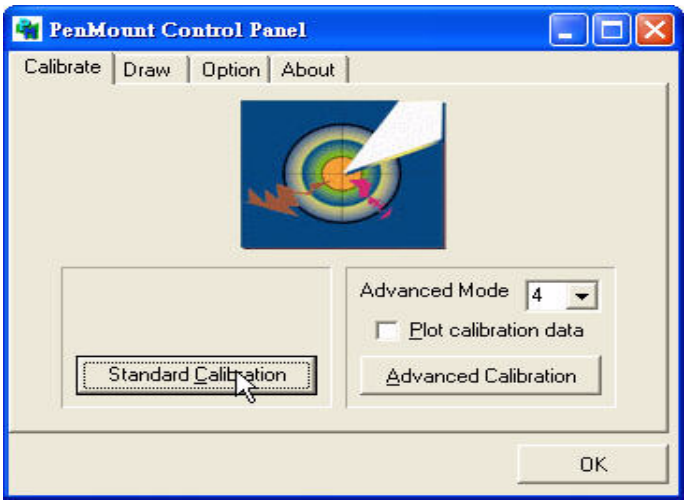


Figure F.7: Standard Calibration -1

Figure F.8: Standard Calibration -2

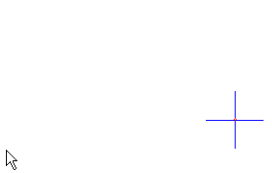


Figure F.9: Standard Calibration -3

Note *Touch the red squares in sequence. The calibration is completed after the fifth touch red point is calibrated. Press "ESC" to skip.*

Advanced Calibration is for the aged touchscreens by using 4, 9, 16 or 25 points to calibrate touch panel.

Figure F.10: Advanced Calibration -1

Figure F.11: Advanced Calibration -2

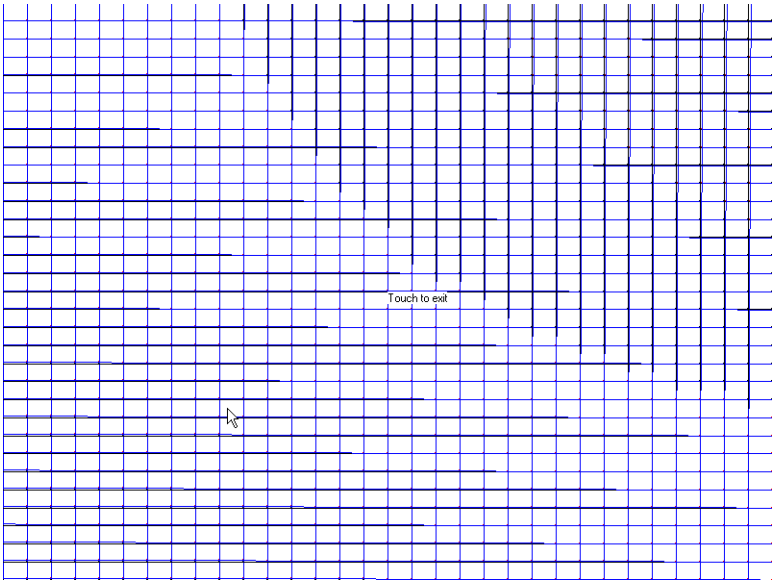


Figure F.12: Plot Calibration Data

Note *Plot Calibration Data enabled provides the blue lines to show linearity before calibration and black lines to show linearity after calibration when you finished the advanced calibration.*

Draw

This is to test the touchscreen operation. Its display shows touch location.

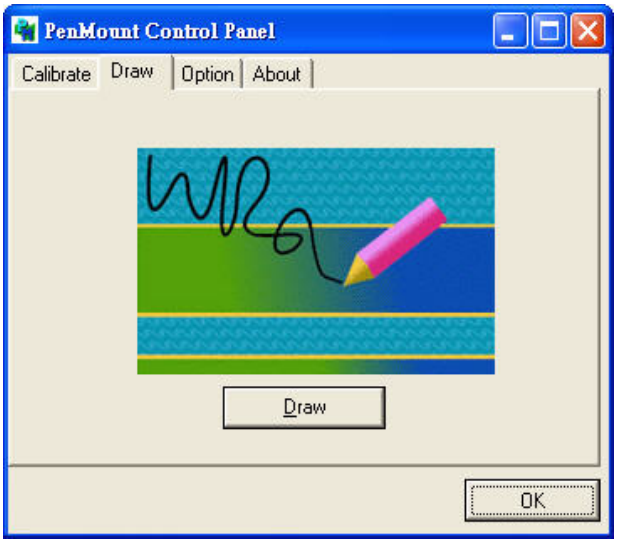


Figure F.13: Draw

Click “menu” and then click “clear screen” to clear the drawing.

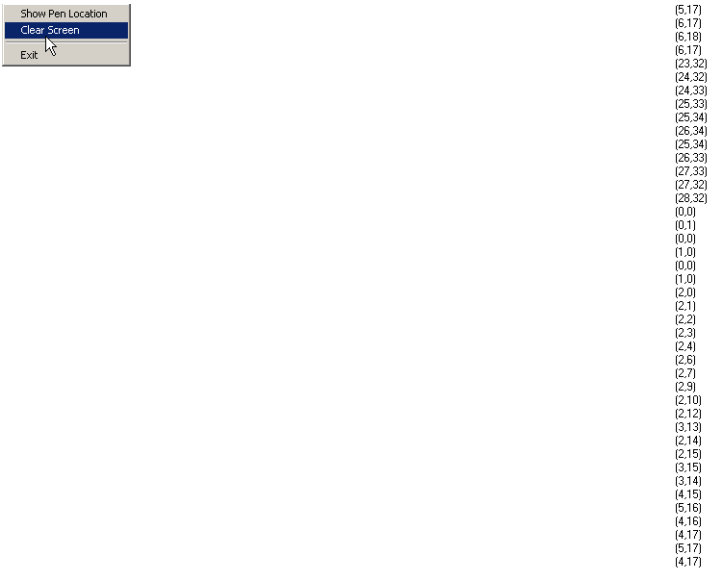


Figure F.14: Clear Screen

Option

This option is to set the operation mode and beep sounds if the beep sound is enabled. The operation mode, stream mode and point mode, is to enable/ disable the mouse's ability to drag on-screen icons. Stream mode let the mouse functions as normal and dragging on-screen. Point mode is only let the mouse a click function. The dragging on-screen is disabled. Users can turn on / off the beep sound by clicking the "enable beep sound".

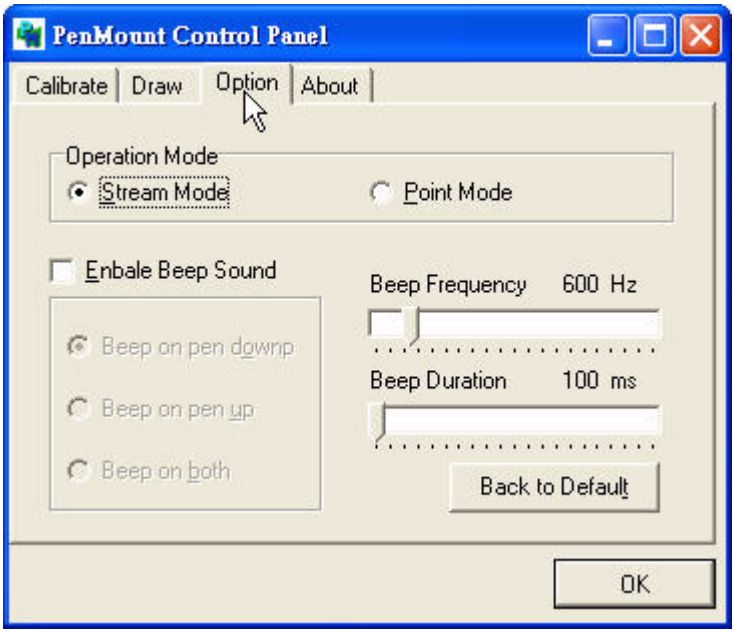


Figure F.15: Option

APPENDIX G

Fuse Specifications

Appendix G Fuse Specifications

G.1 Fuse Specifications

Rating: 250 V AC, 5 A

Size: 5 x 20 mm

Note *For your protection, the fuse is set to break if the input voltage exceeds 33 V DC.*

G.2 Fuse Replacement

Step 1: Remove the fuse cover

Step 2: Replace the damaged fuse with a new one

Step 3: Place the fuse cover back into position.

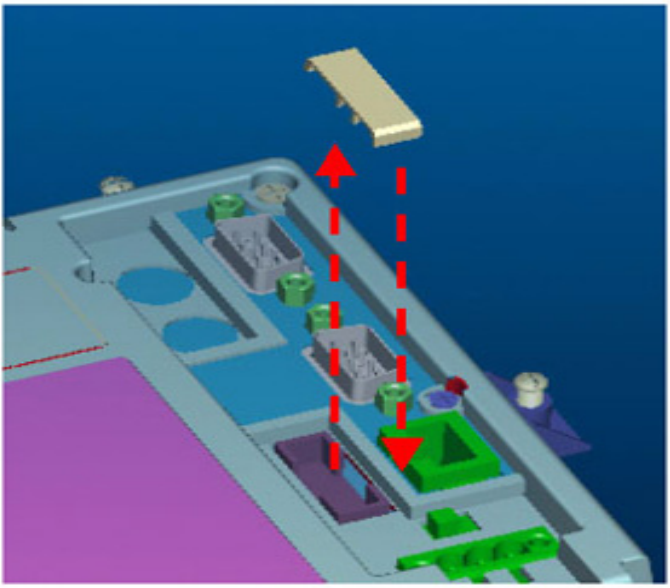


Figure G.1: Fuse Replacement

Warning *Do NOT replace the fuse unless it is damaged.*
Do NOT replace the fuse with a different rated fuse.